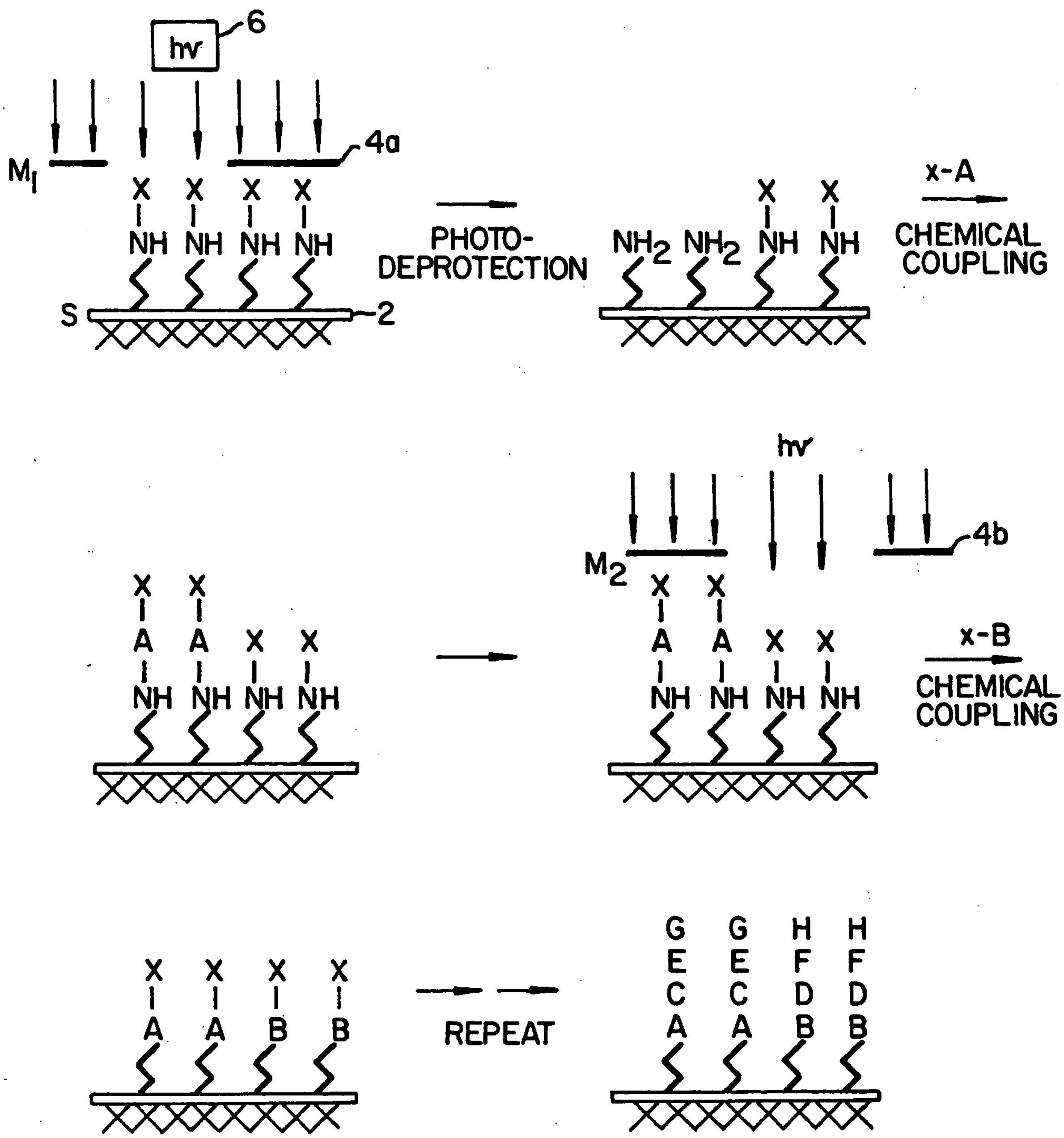

hv
6
M1
4a
S
2
PHOTO-DEPROTECTION
x-A
CHEMICAL COUPLING
hv
M2
4b
x-B
CHEMICAL COUPLING
REPEAT

FIG. 1.

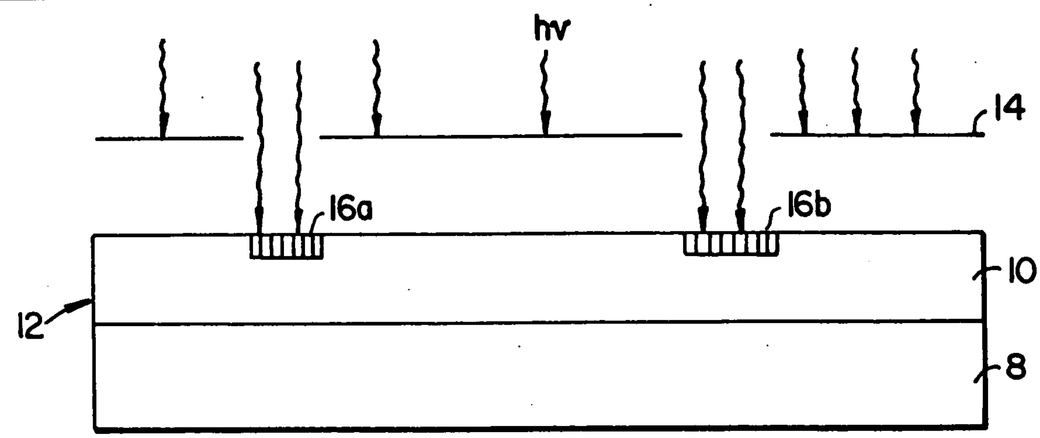


FIG. 2.

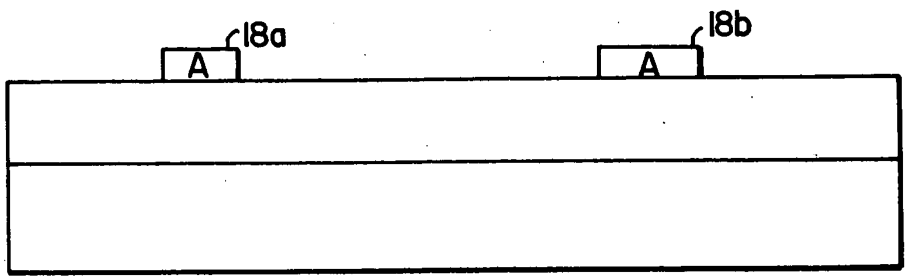


FIG. 3.

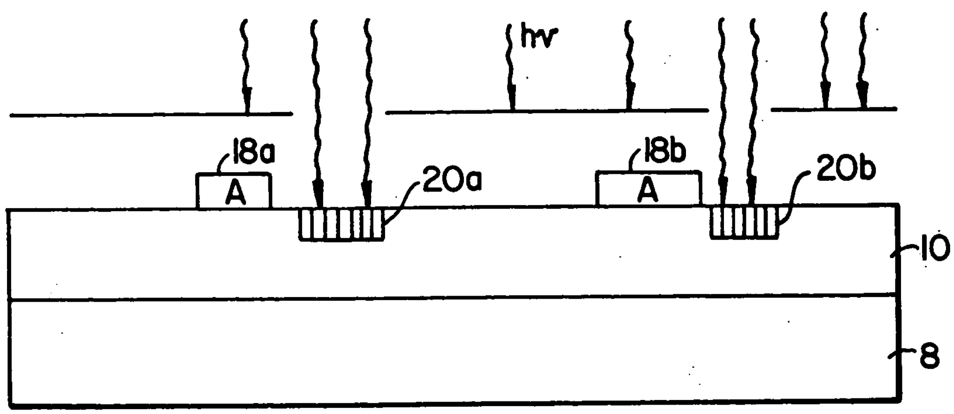


FIG. 4.

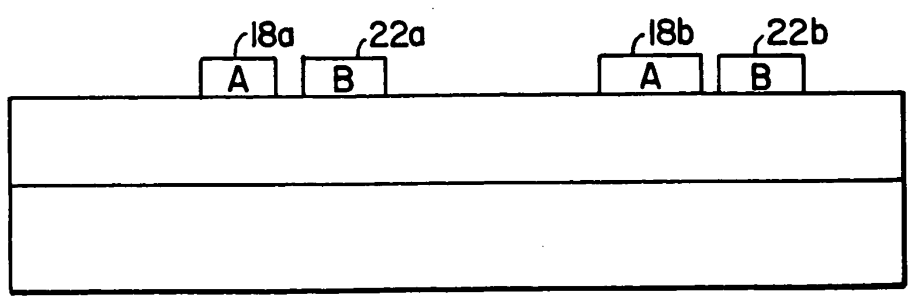


FIG. 5.

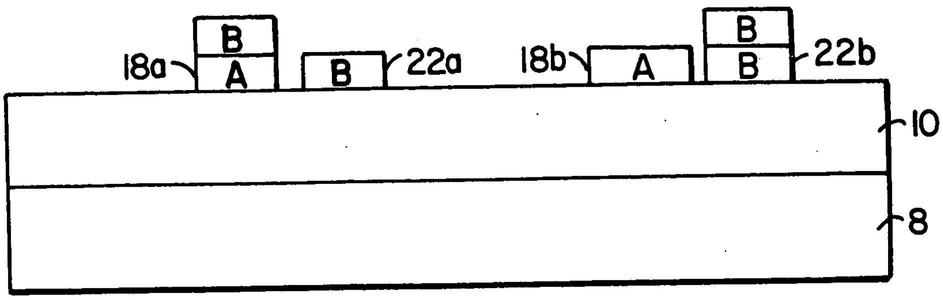


FIG. 6.

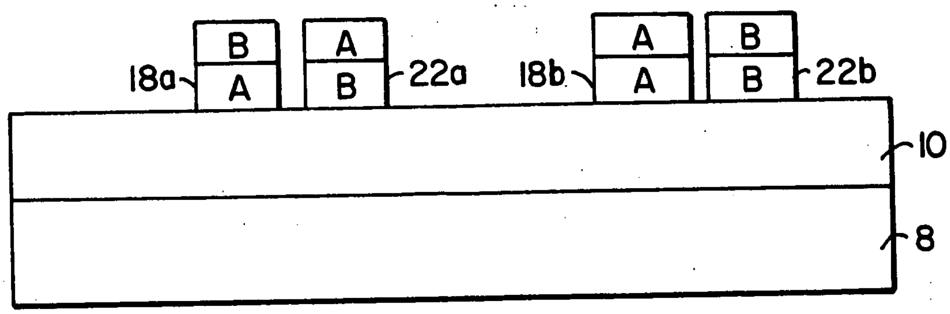


FIG. 7.

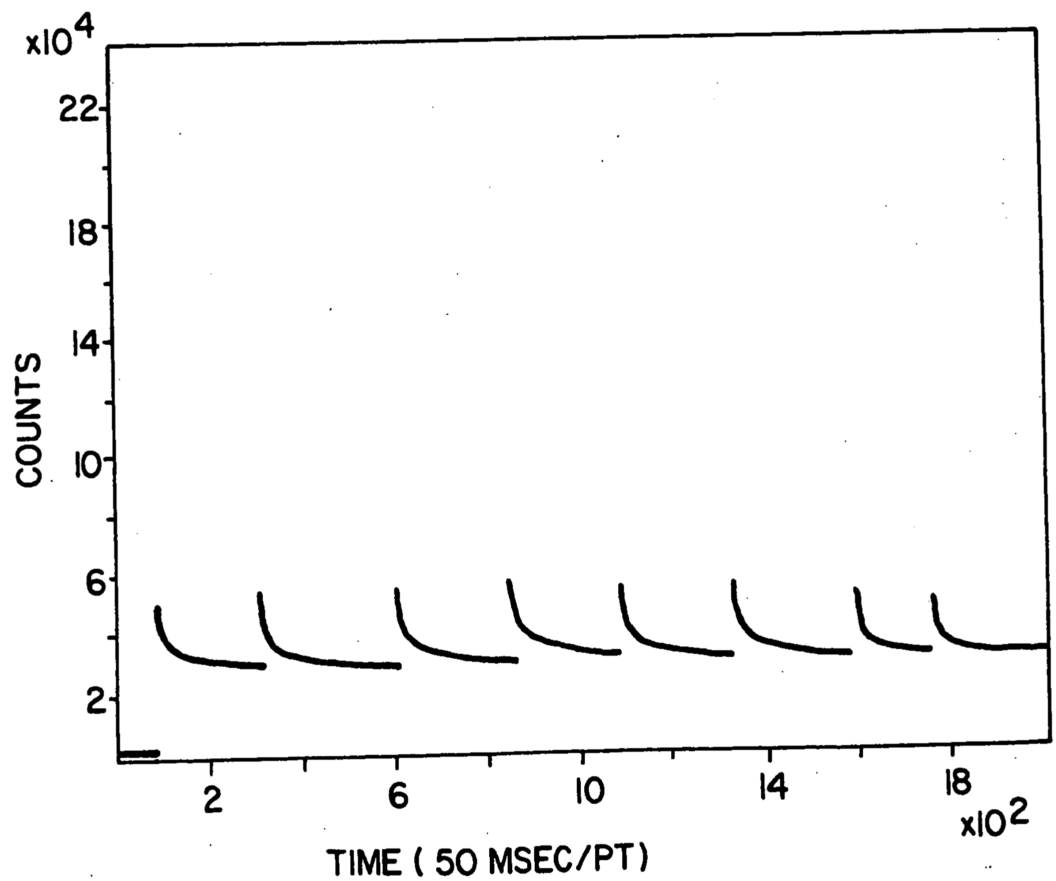


FIG. 8A.

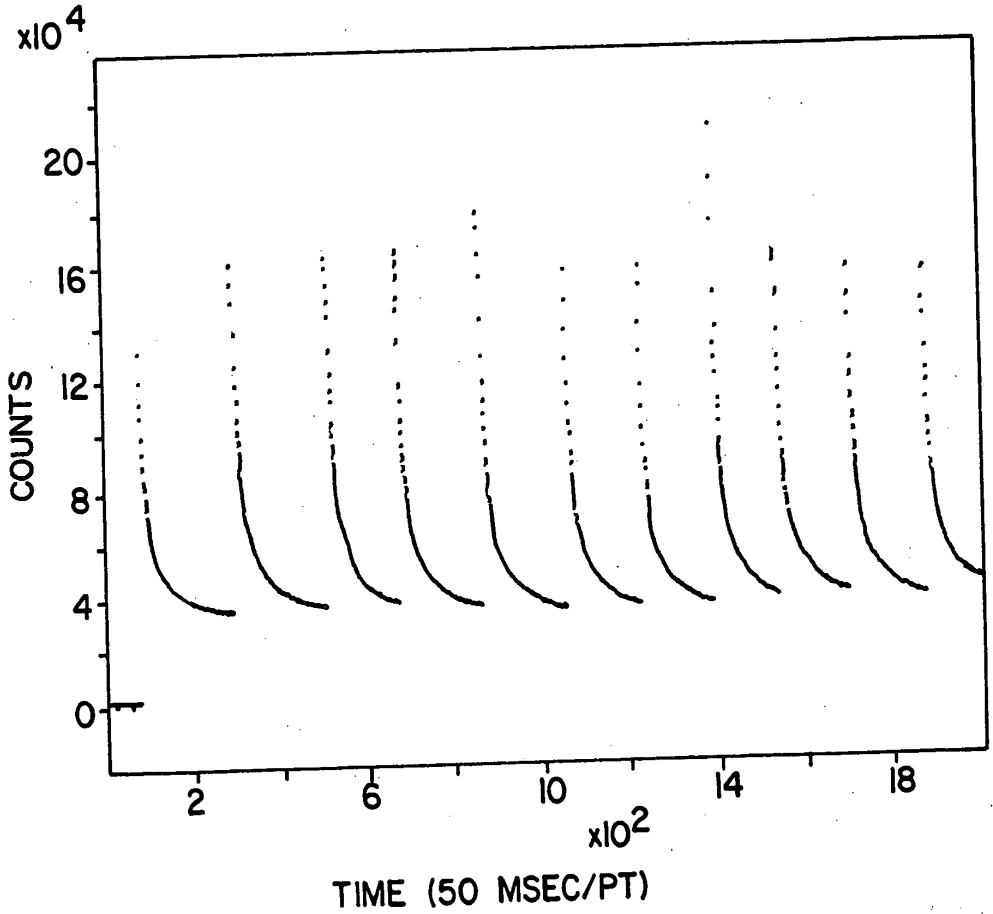


FIG. 8B.

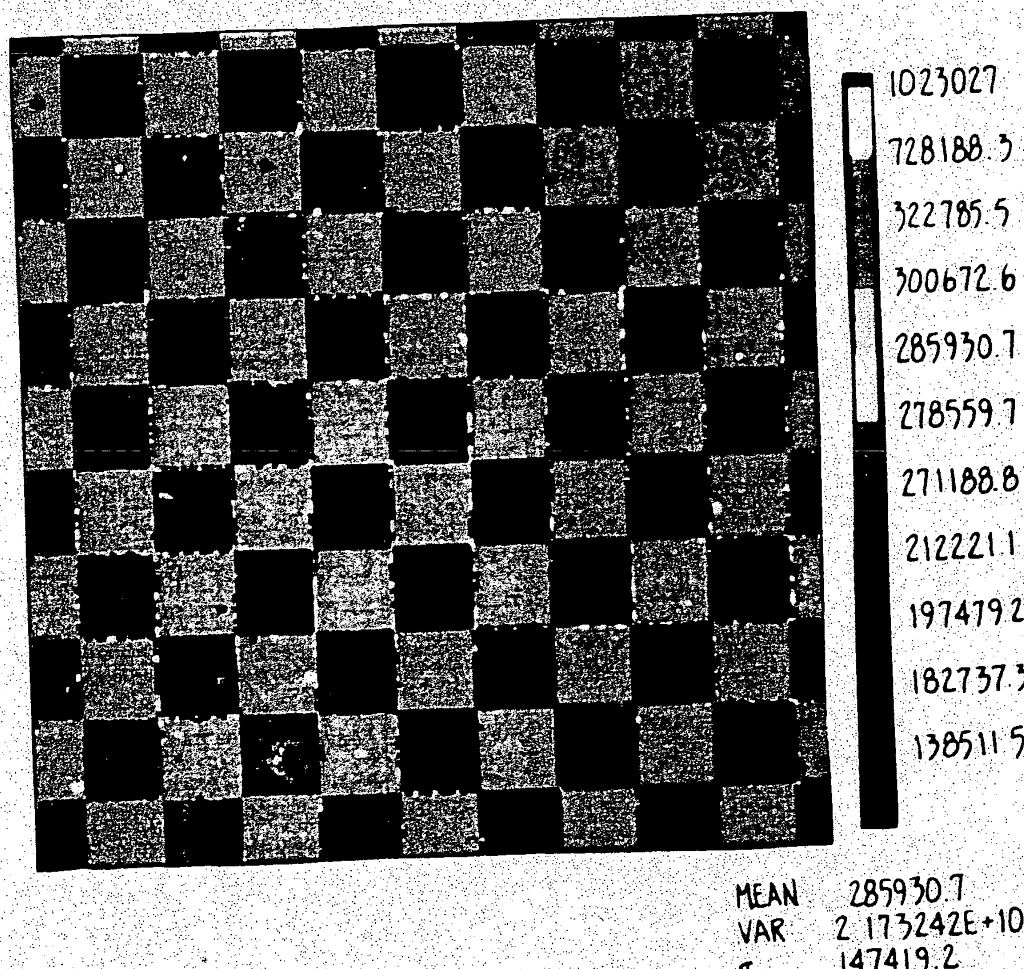
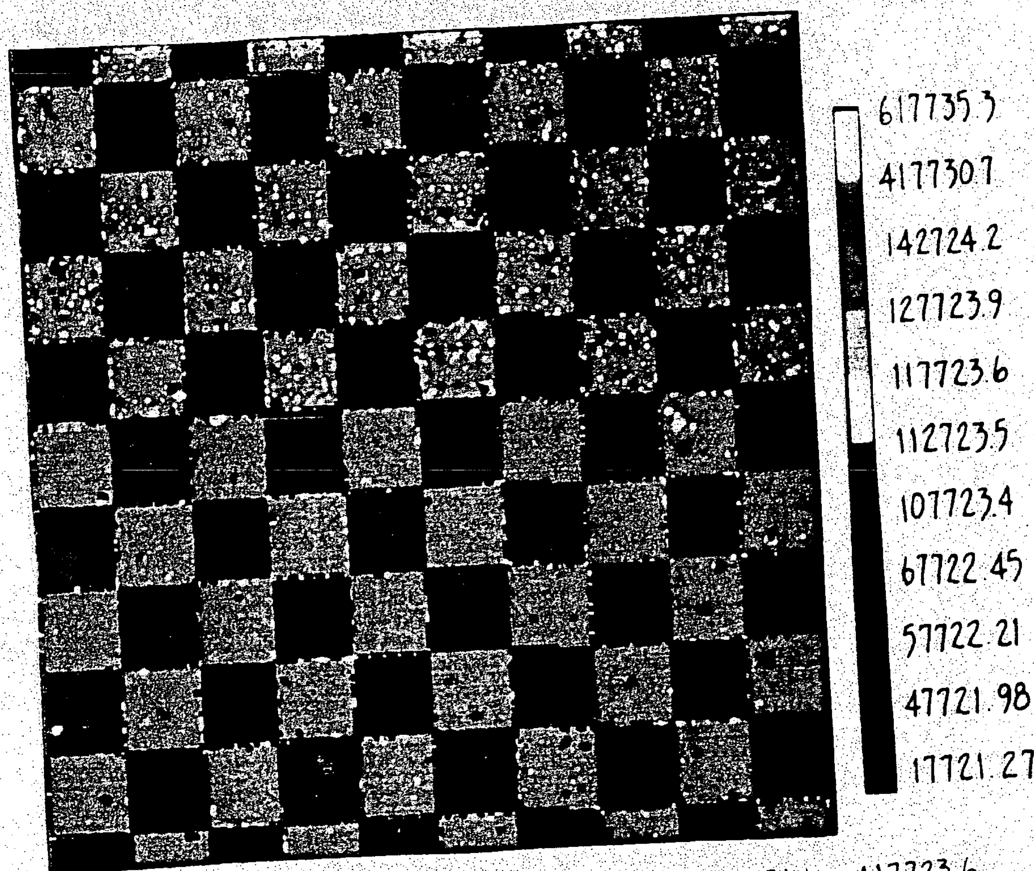
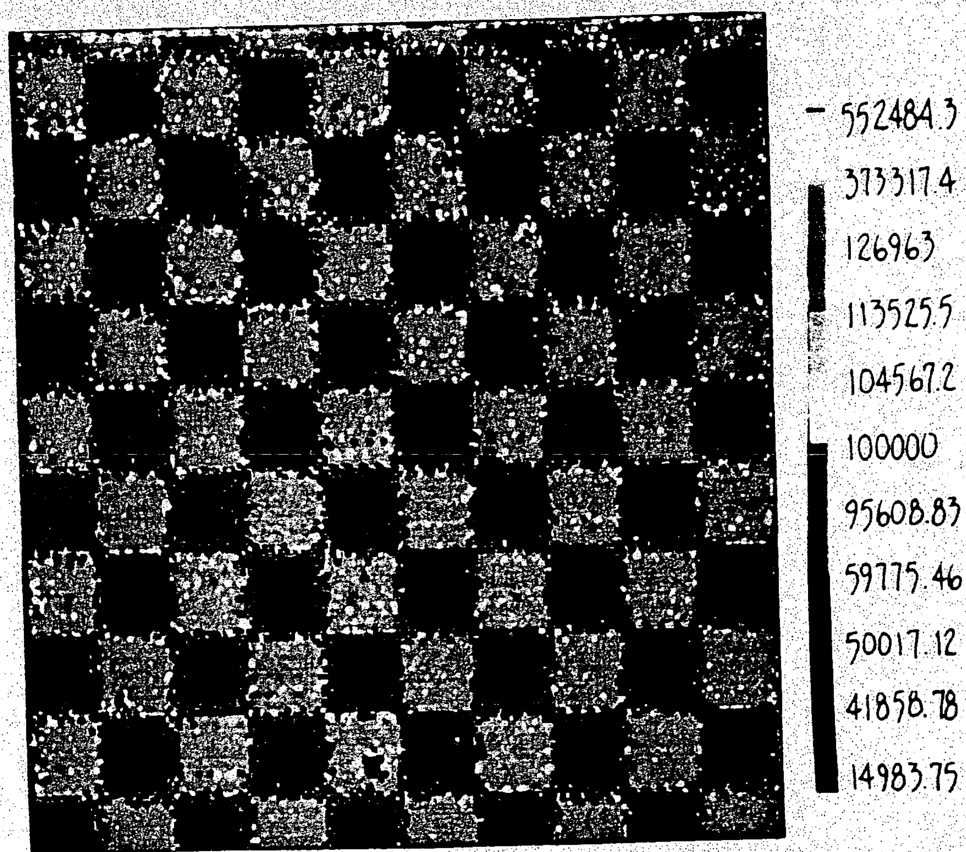

1023027
728188.3
322785.5
300672.6
285930.7
278559.7
271188.8
212221.1
197479.2
182737.3
138511.5
MEAN 285930.7
VAR 2.173242E+10
σ 147419.2

FIG._9A.



MEAN: 117723.6
VAR: 1.000047E+10
σ: 100002.3

FIG._9B.



MEAN 104567.2
VAR: 8.025189E+09
σ: 89583.42

FIG._9C.

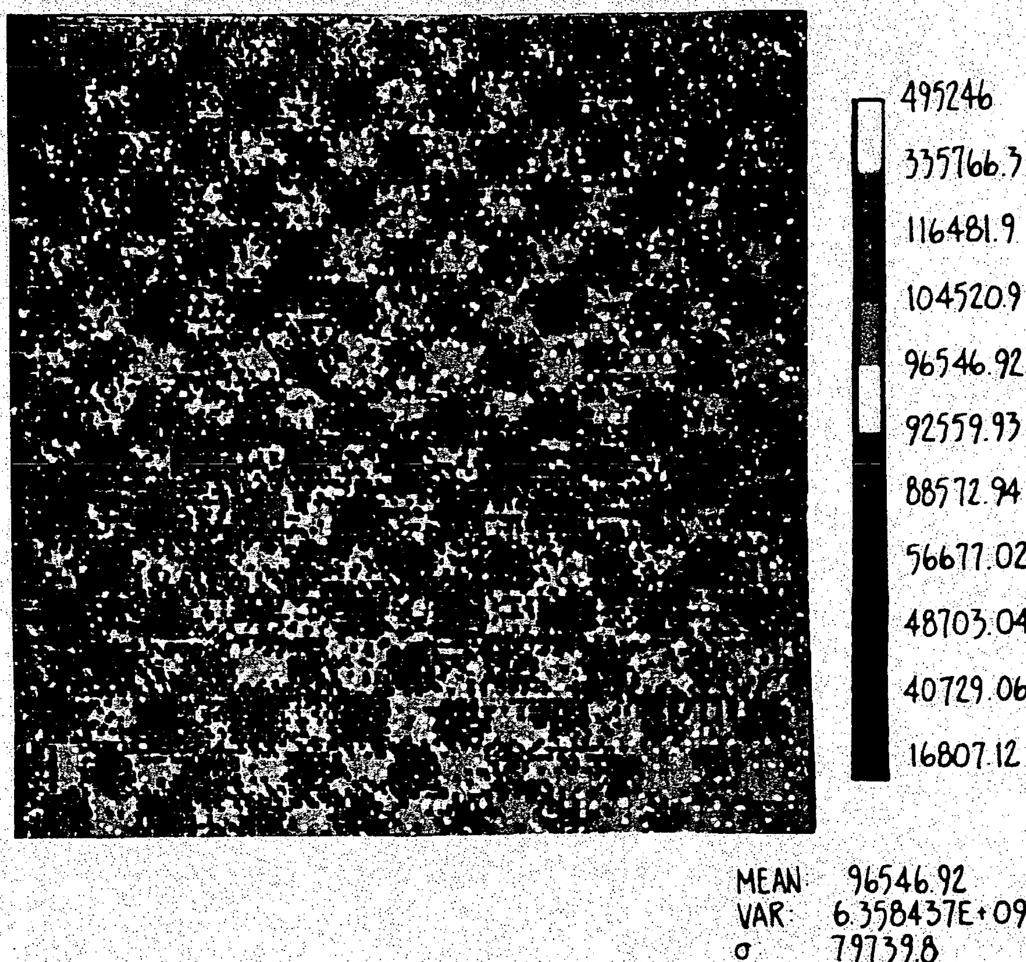

495246
335766.3
116481.9
104520.9
96546.92
92559.93
88572.94
56677.02
48703.04
40729.06
16807.12
MEAN 96546.92
VAR 6.358437E+09
σ 79739.8

FIG._9D.

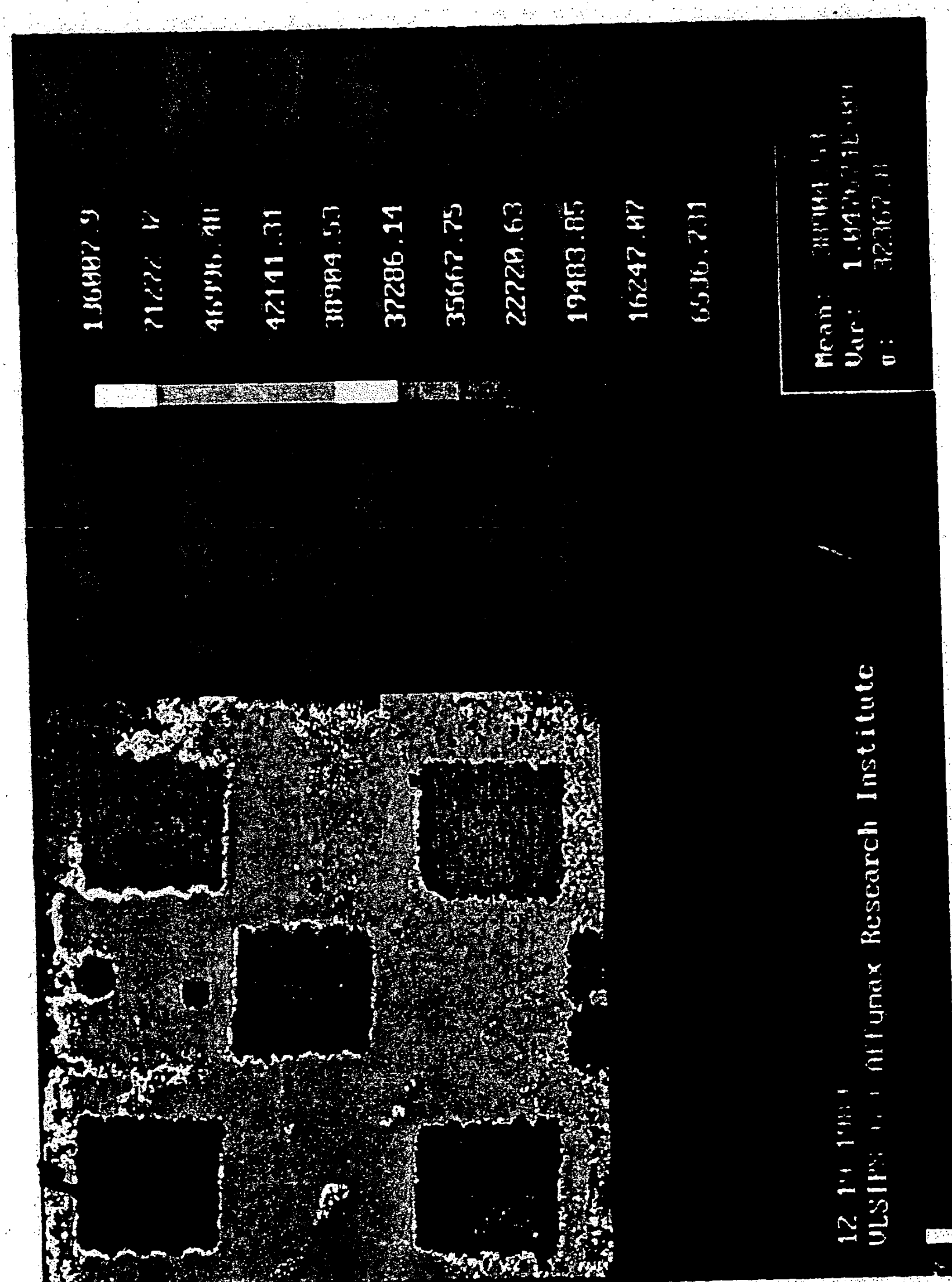


FIG. 10.

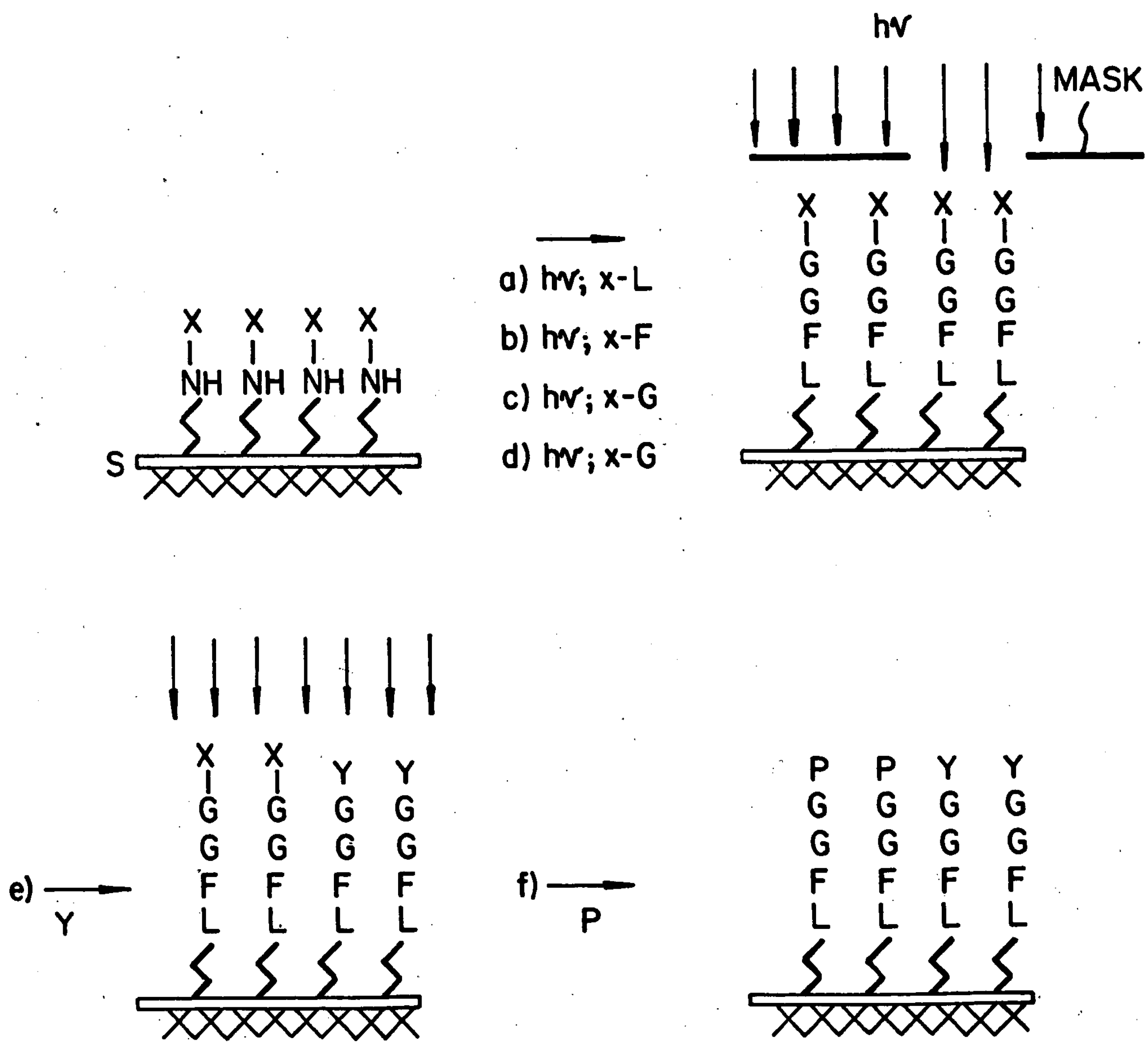

hv
MASK
S
X X X X
NH NH NH NH
a) hv; x-L
b) hv; x-F
c) hv; x-G
d) hv; x-G
X X X X
G G G G
G G G G
F F F F
L L L L
e)
Y
X X Y Y
G G G G
G G G G
F F F F
L L L L
f)
P
P P Y Y
G G G G
G G G G
F F F F
L L L L

FIG. 11.

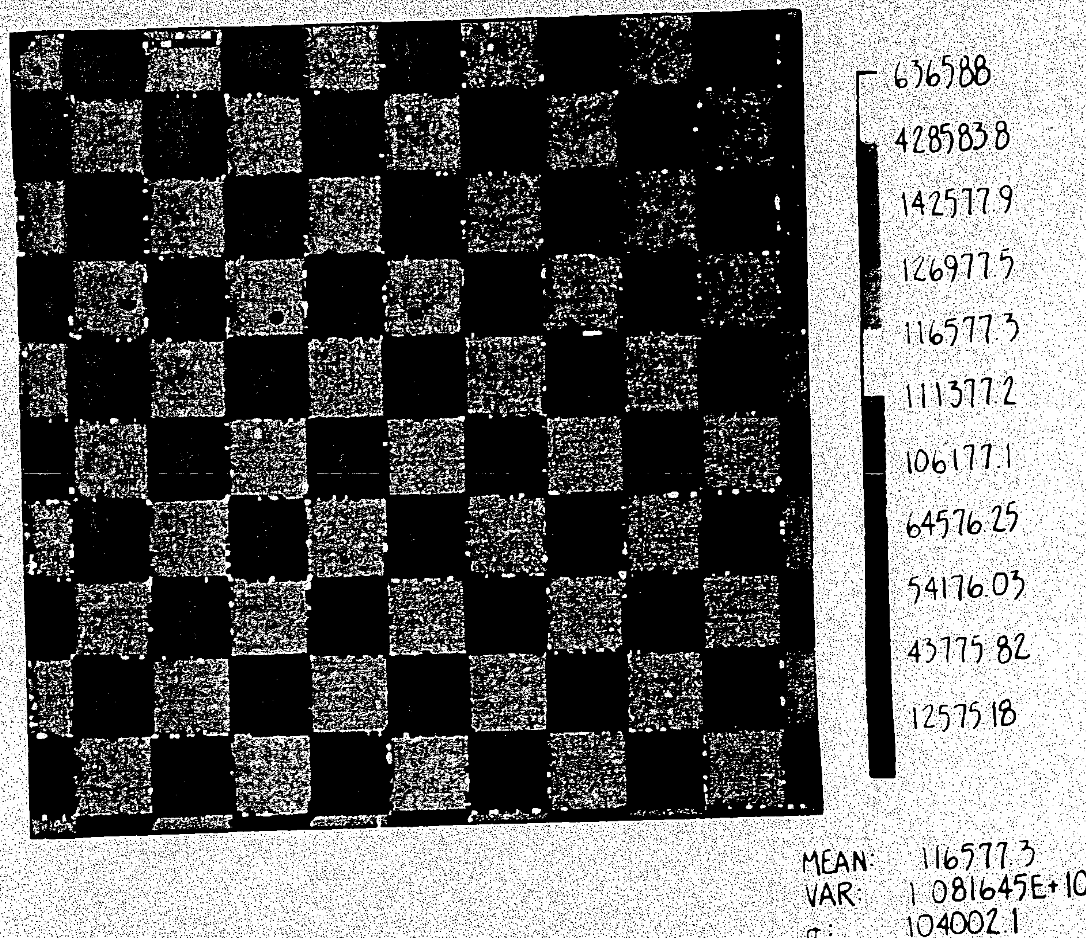

636588
4285838
1425779
126977.5
116577.3
111377.2
106177.1
64576.25
54176.03
43775.82
12575.18
MEAN: 116577.3
VAR: 1.081645E+10
σ: 104002.1

FIG._12.

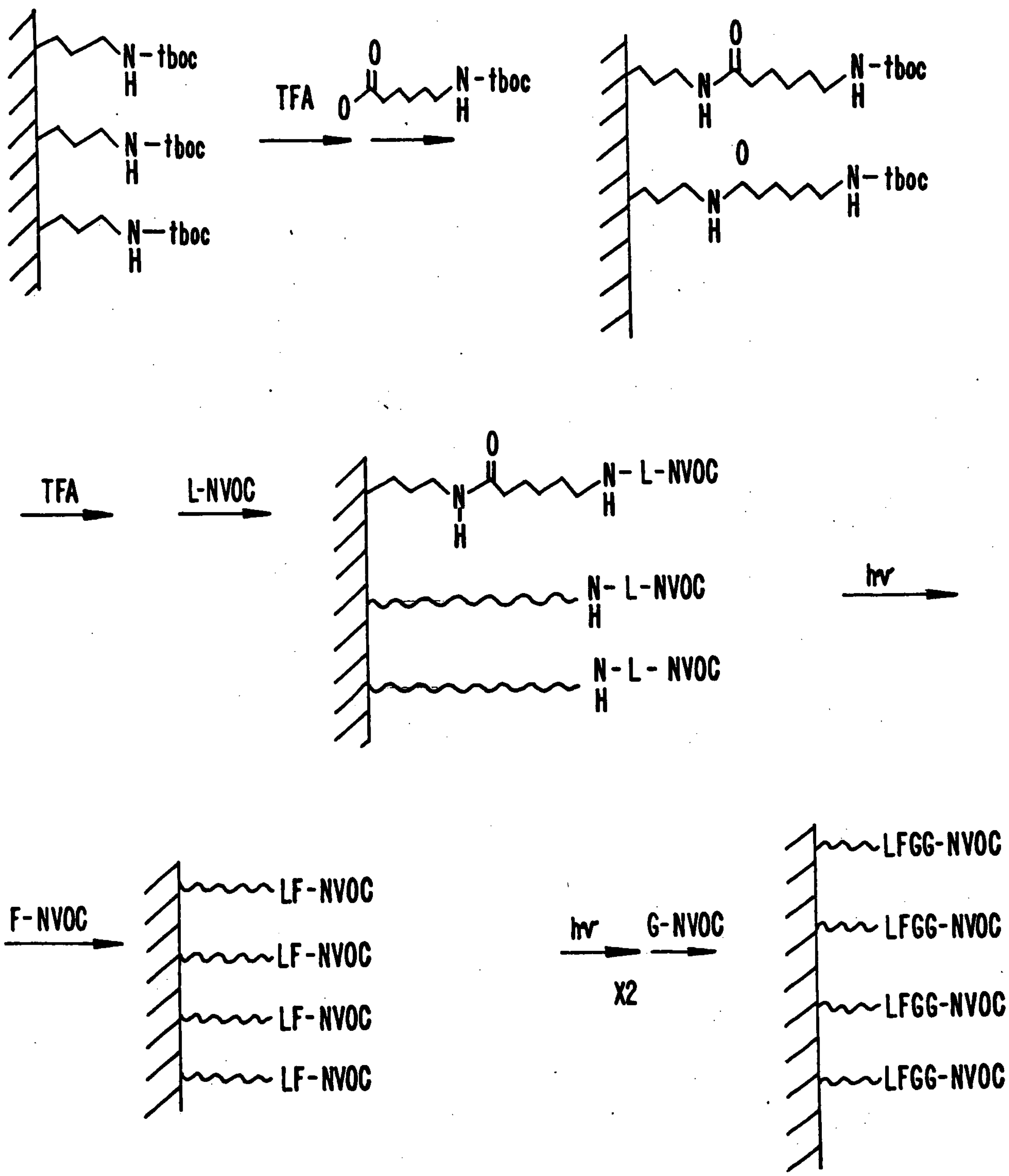

N-tboc
H
TFA
O
O
N-tboc
H
N-tboc
H
TFA
L-NVOC
N-L-NVOC
H
hν
F-NVOC
LF-NVOC
hν
G-NVOC
X2
LFGG-NVOC

FIG. 13A.

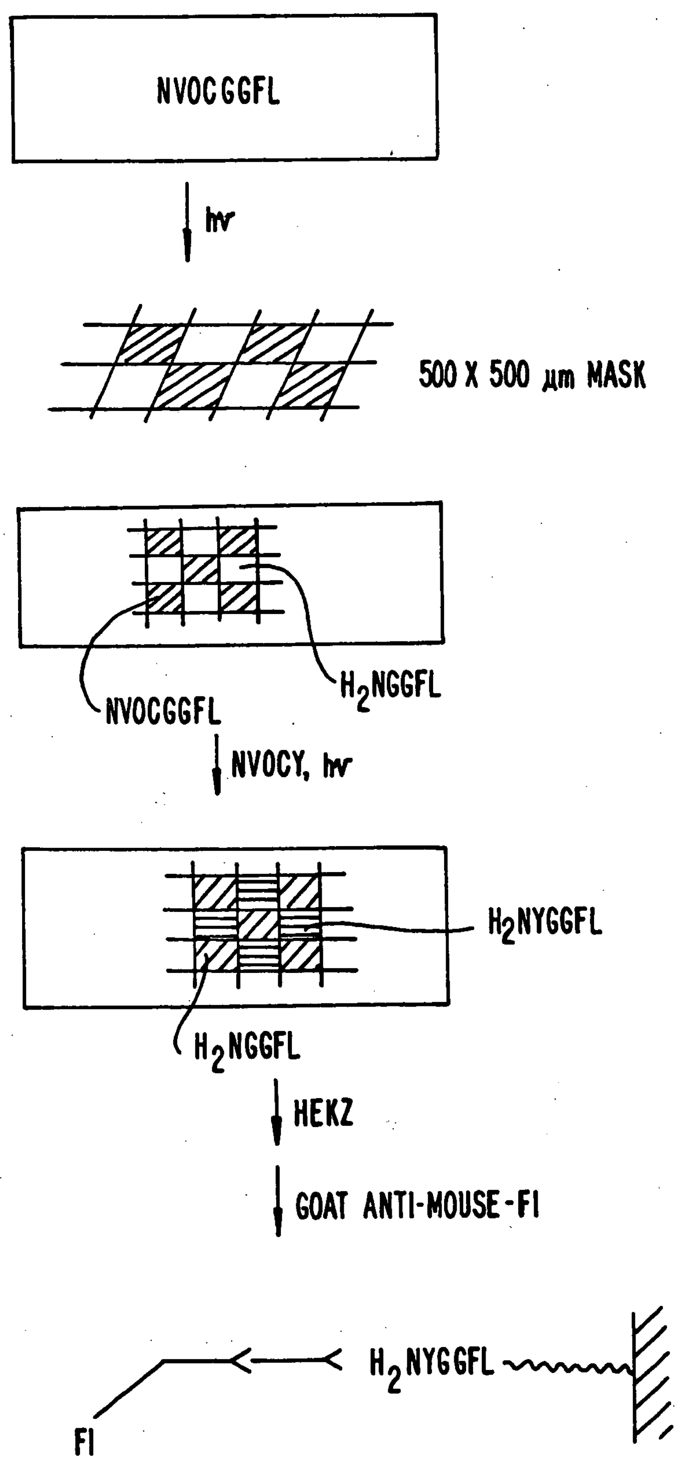
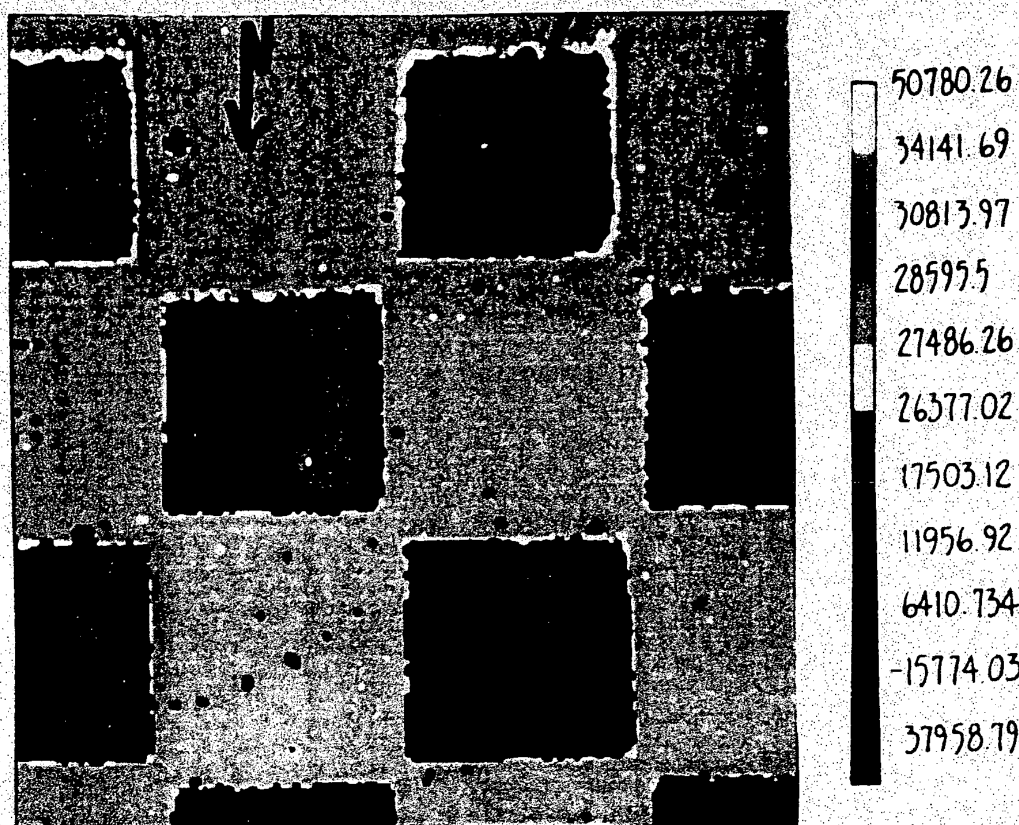
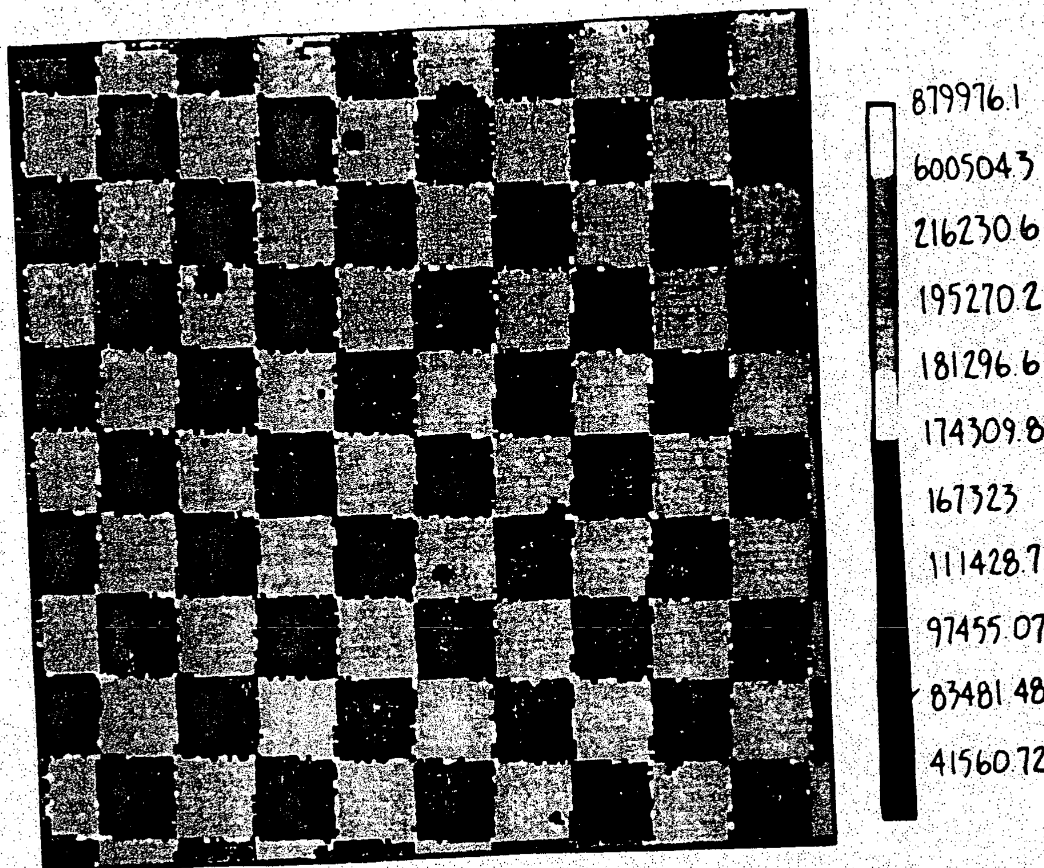

NVOCGGFL
hν
500 X 500 µm MASK
NVOCGGFL
H2NGGFL
NVOCY, hν
H2NYGGFL
H2NGGFL
HEKZ
GOAT ANTI-MOUSE-FI
FI
H2NYGGFL

FIG. 13B.



MEAN 28595.5
VAR 4.921637E+08
σ 22184.76

FIG._13C.



MEAN 181296.6
VAR 1.952612E+10
σ 139735.9

FIG._13D.

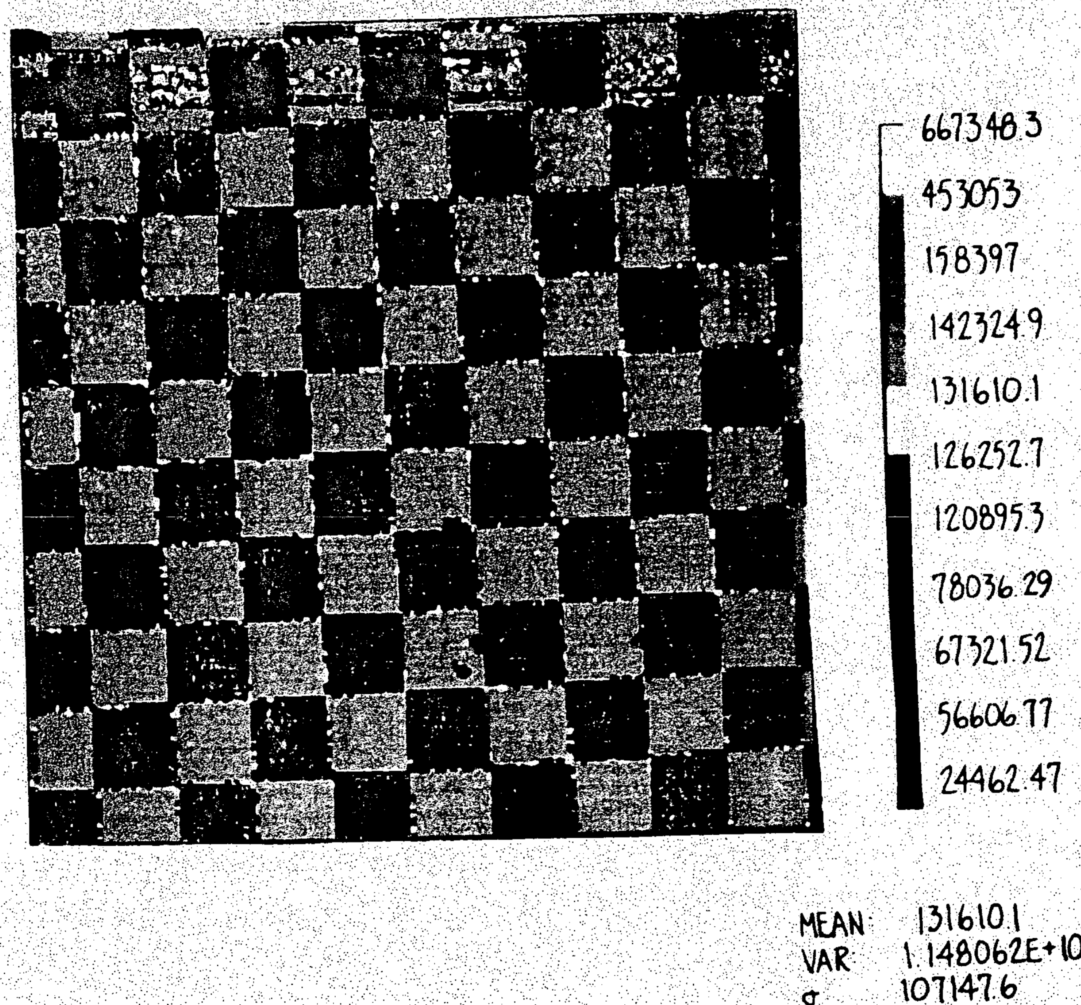

667348.3
453053
158397
142324.9
131610.1
126252.7
120895.3
78036.29
67321.52
56606.77
24462.47
MEAN: 131610.1
VAR: 1.148062E+10
σ 107147.6

FIG._14.

P	A	S	G	
LPGFL	LAGFL	LSGFL	LGGFL	L
FPGFL	FAGFL	FSGFL	FGGFL	F
WPGFL	WAGFL	WSGFL	WGGFL	W
YPGFL	YAGFL	YSGFL	YGGFL	Y

L SET

FIG. 15A.

p	a	s	G	
YpGFL	YaGFL	YsGFL	YGGFL	Y
fpGFL	faGFL	fsGFL	fGGFL	f
wpGFL	waGFL	wsGFL	wGGFL	w
ypGFL	yaGFL	ysGFL	yGGFL	y

D SET

FIG. 15B.

FIG._16.

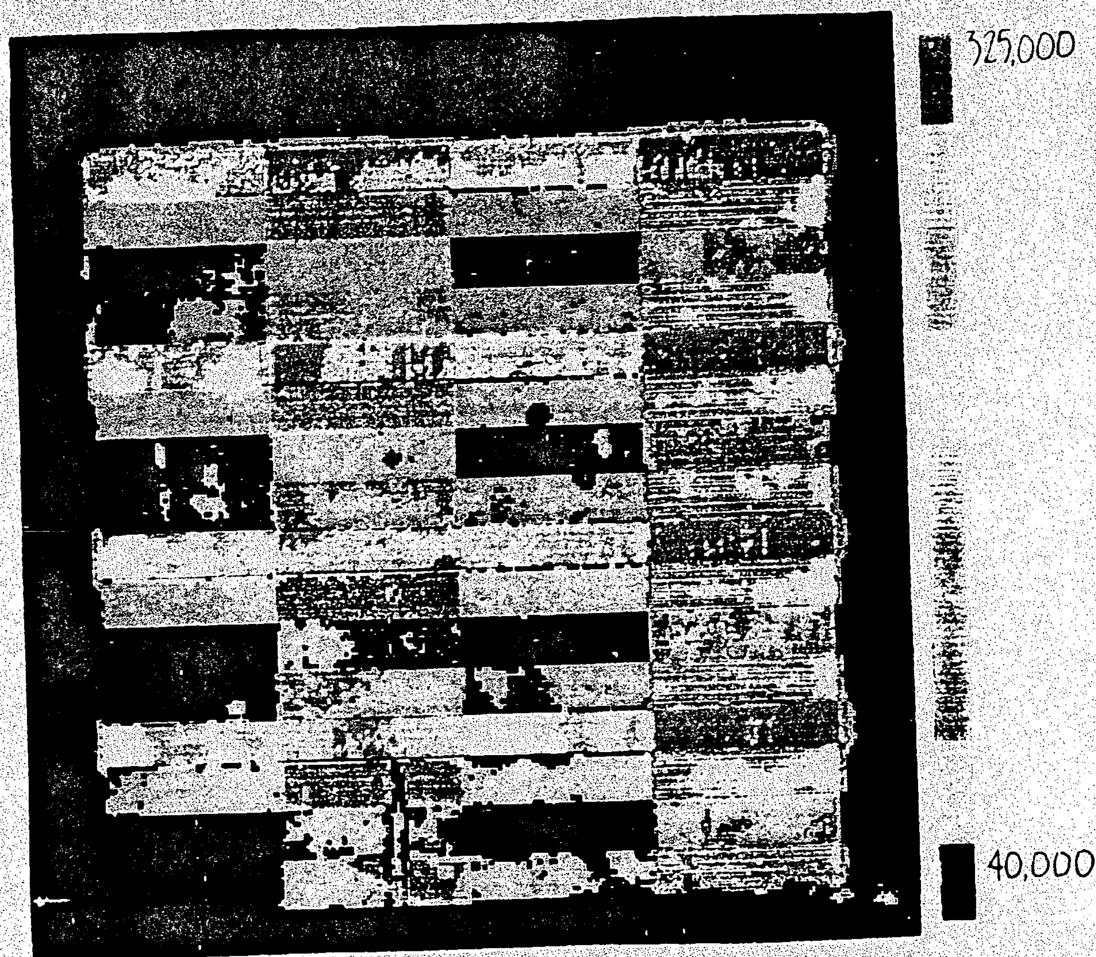


FIG._17.

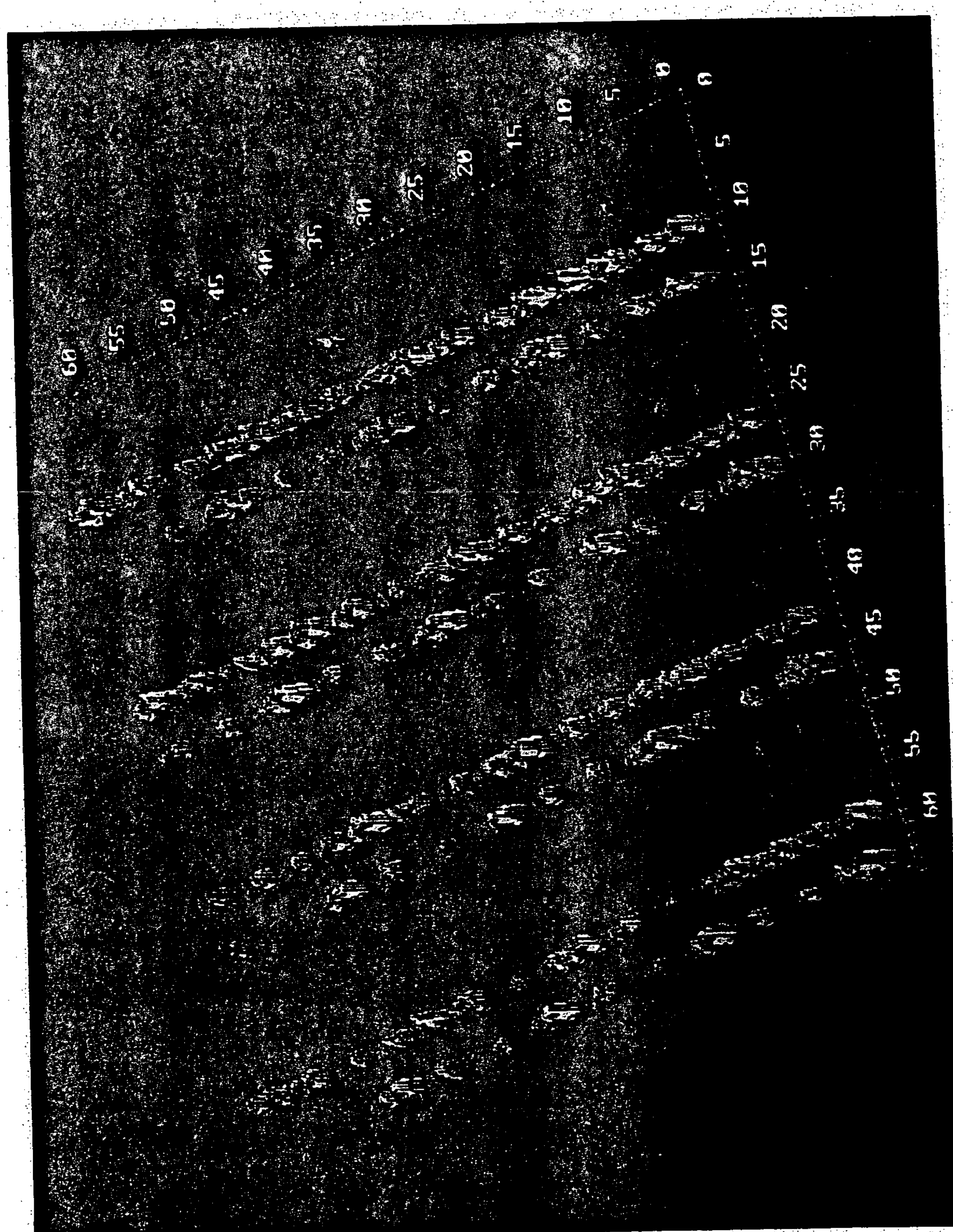


FIG. 18.

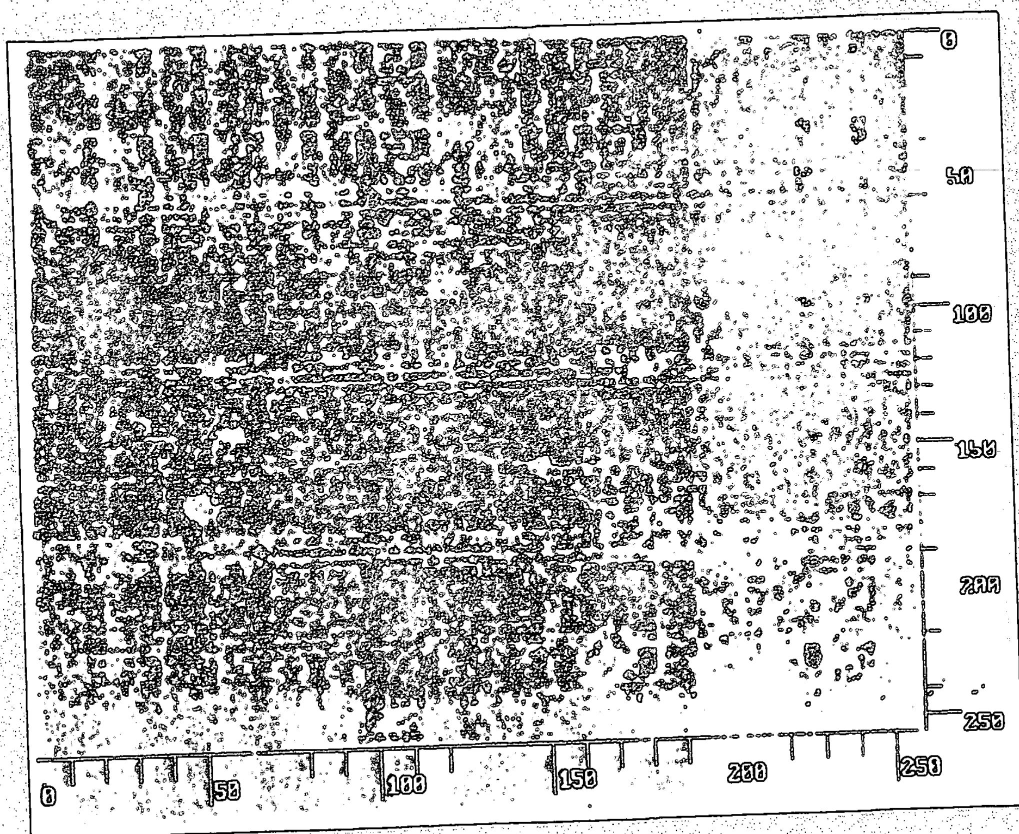


FIG. 19.

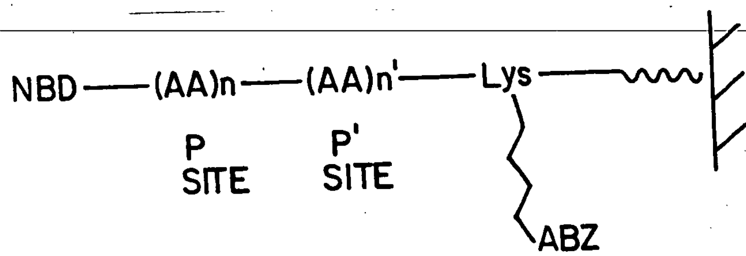


FIG. 20A.

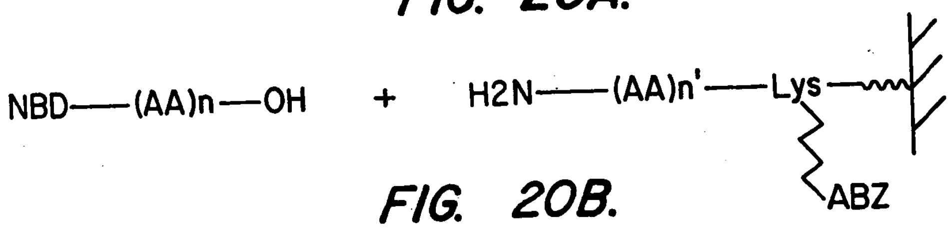


FIG. 20B.

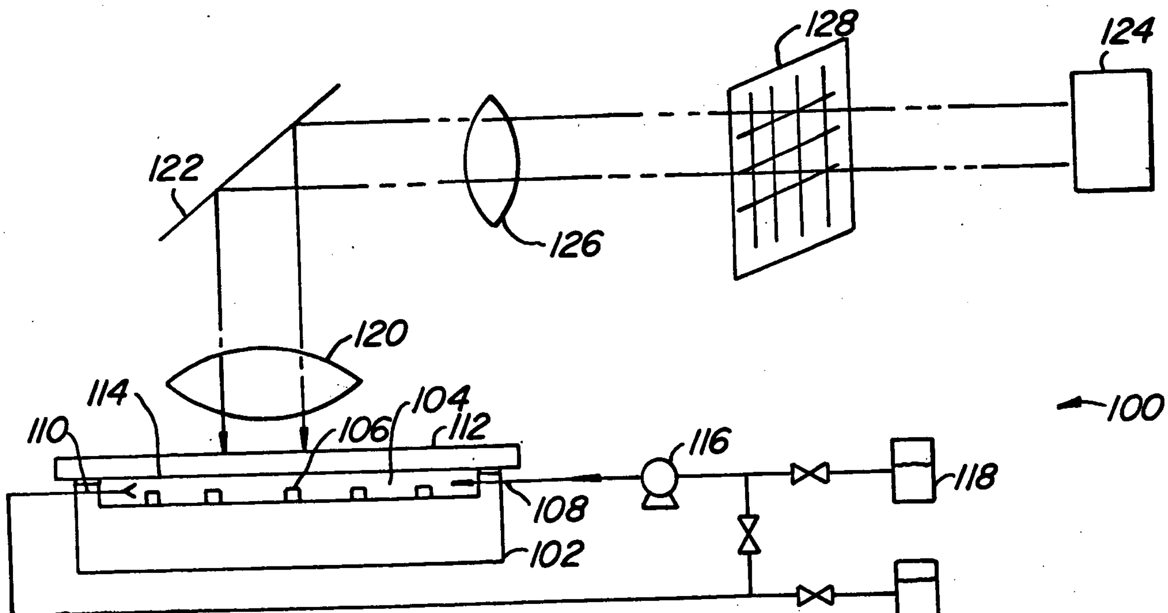


FIG. 22A.

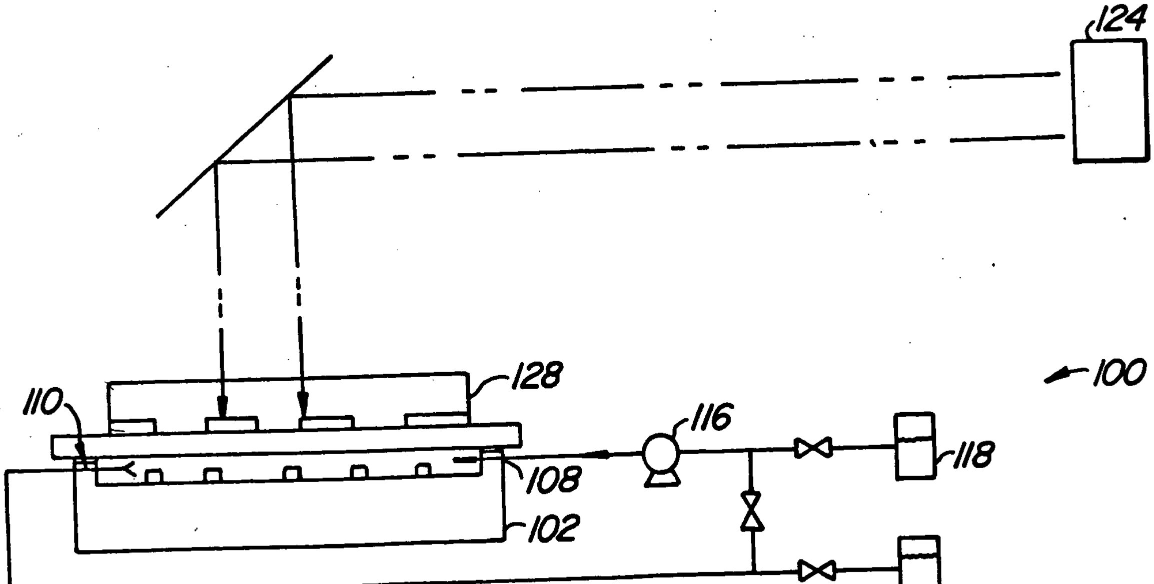


FIG. 22B.

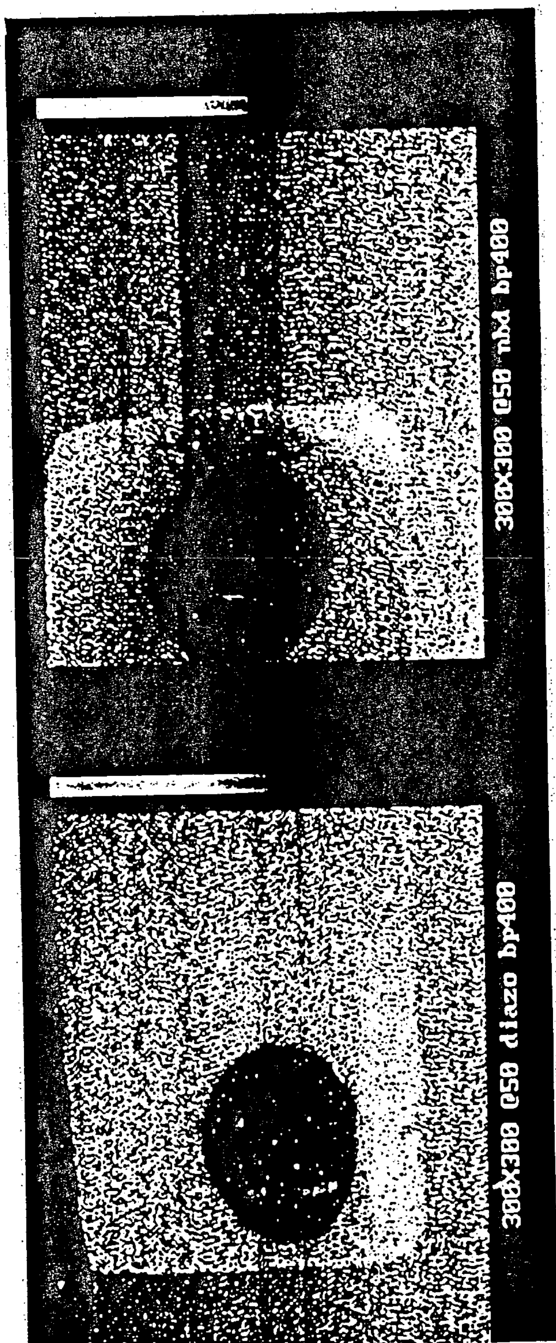


FIG. 21A.

FIG. 21B.

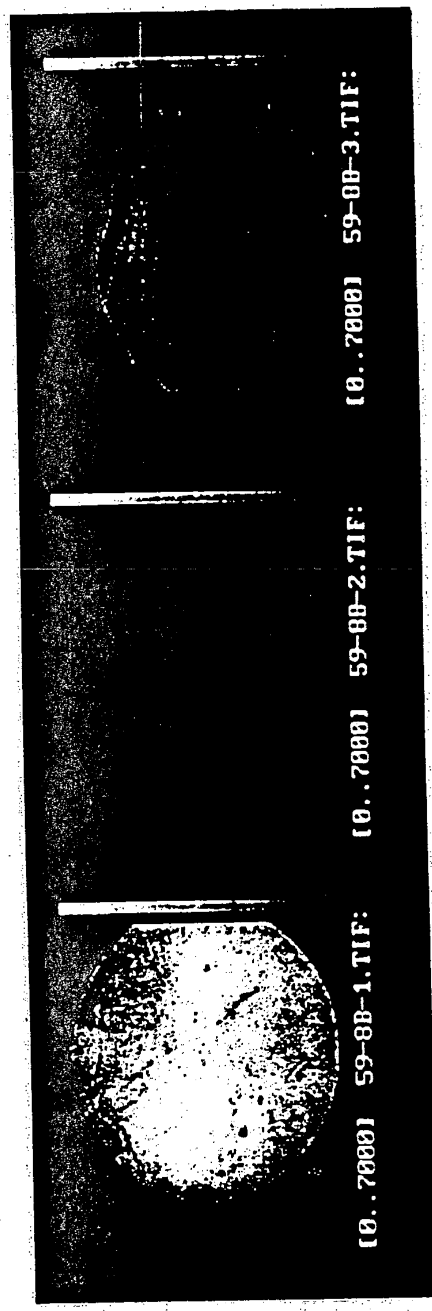


FIG. 39A.

FIG. 39B.

FIG. 39C.

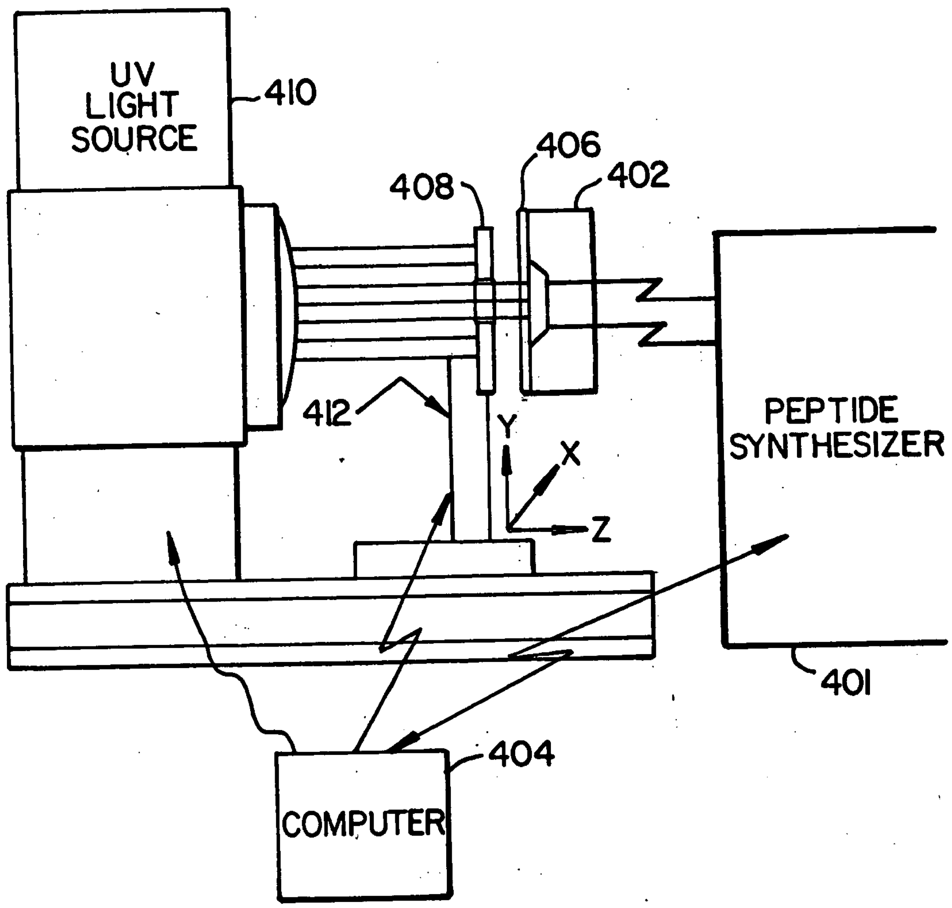

UV
LIGHT
SOURCE
410
406
402
408
412
Y
X
Z
PEPTIDE
SYNTHESIZER
401
404
COMPUTER

FIG. 23.

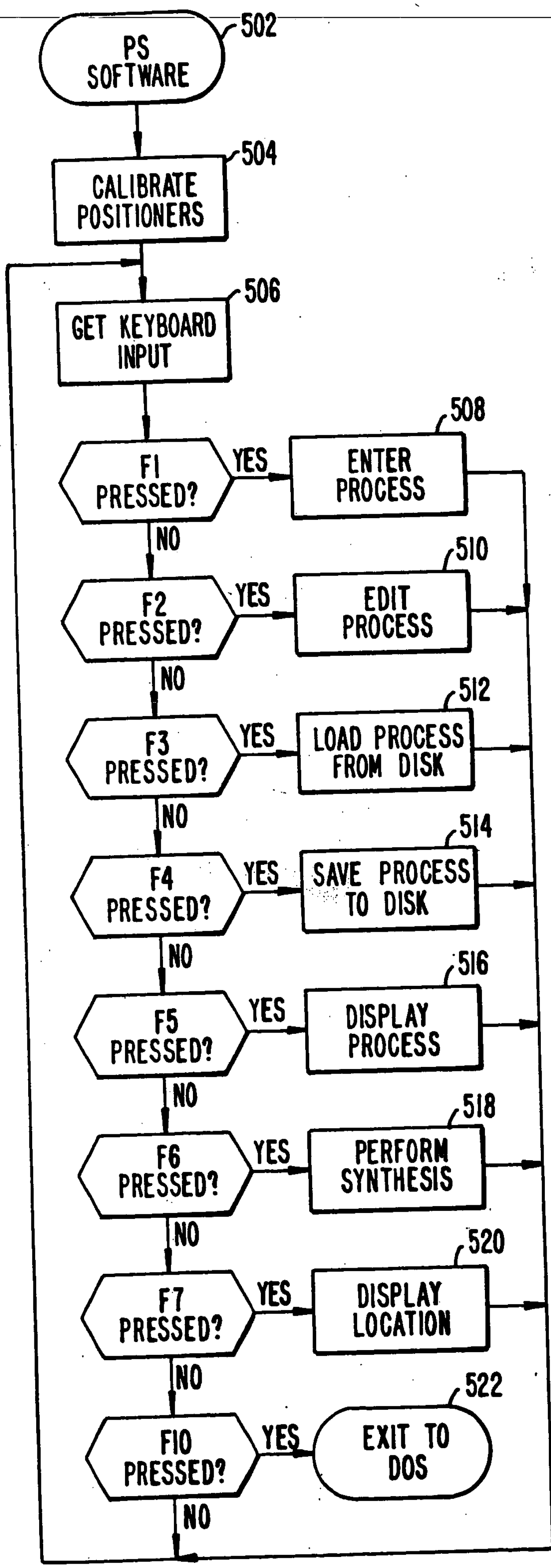


FIG. 24A.

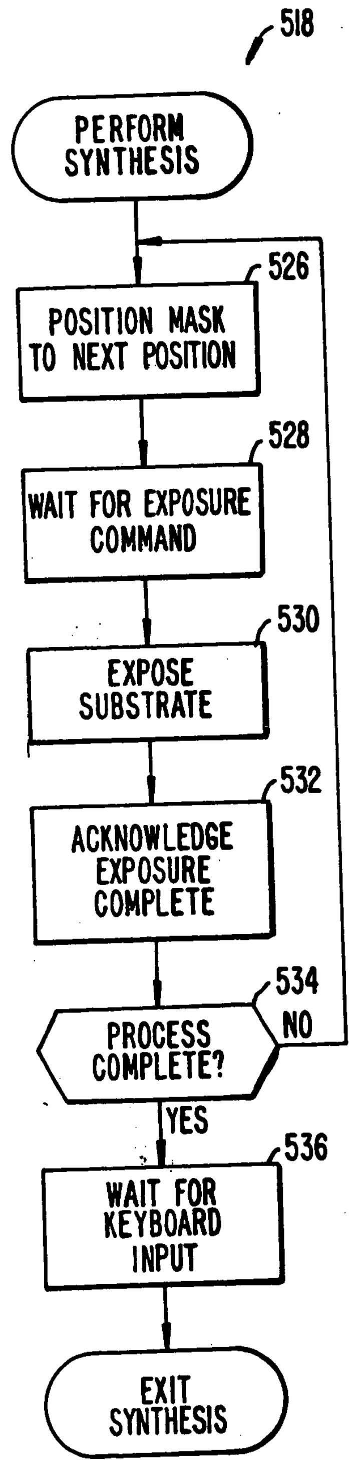


FIG. 24B.

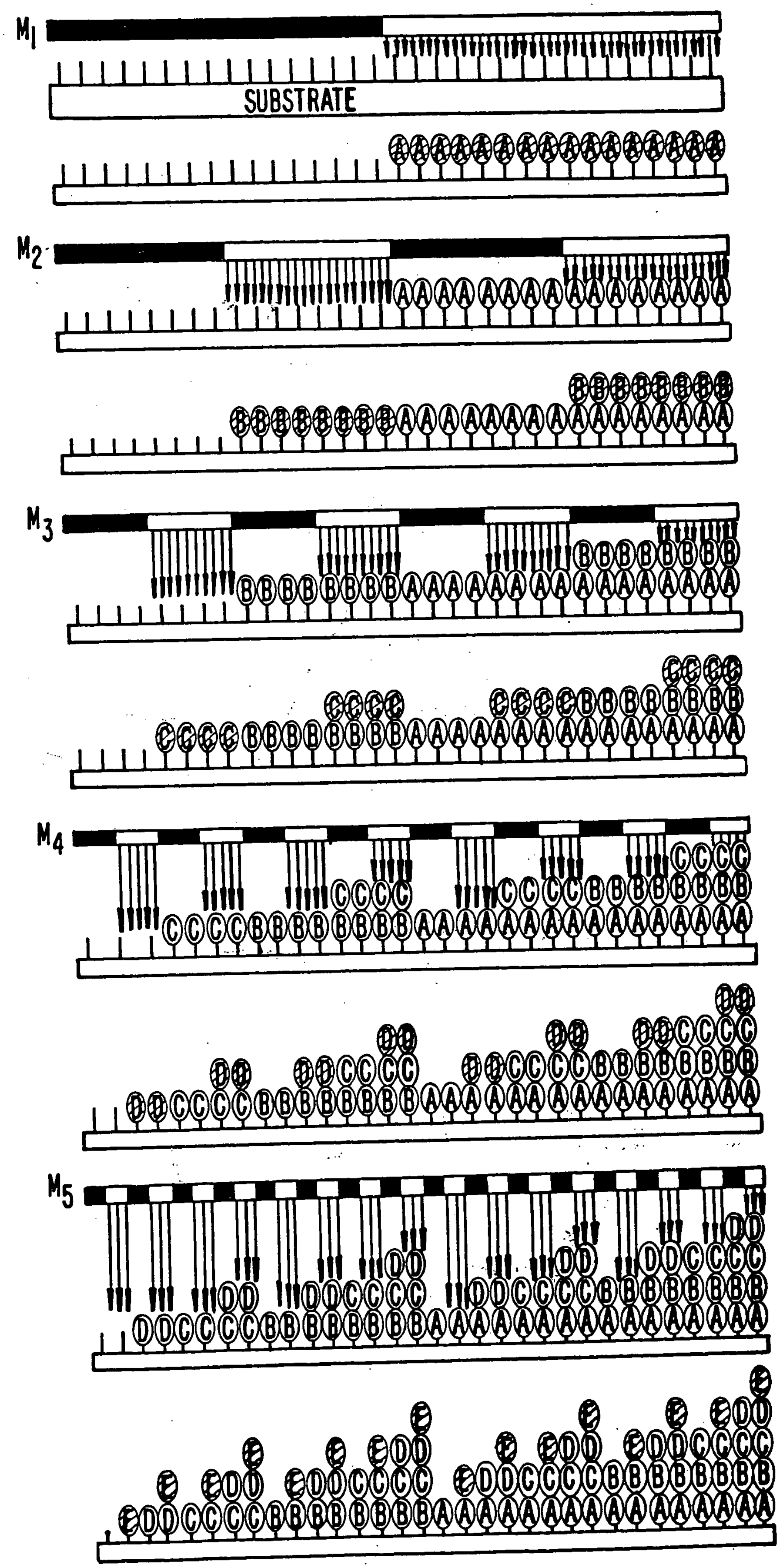


FIG. 25.

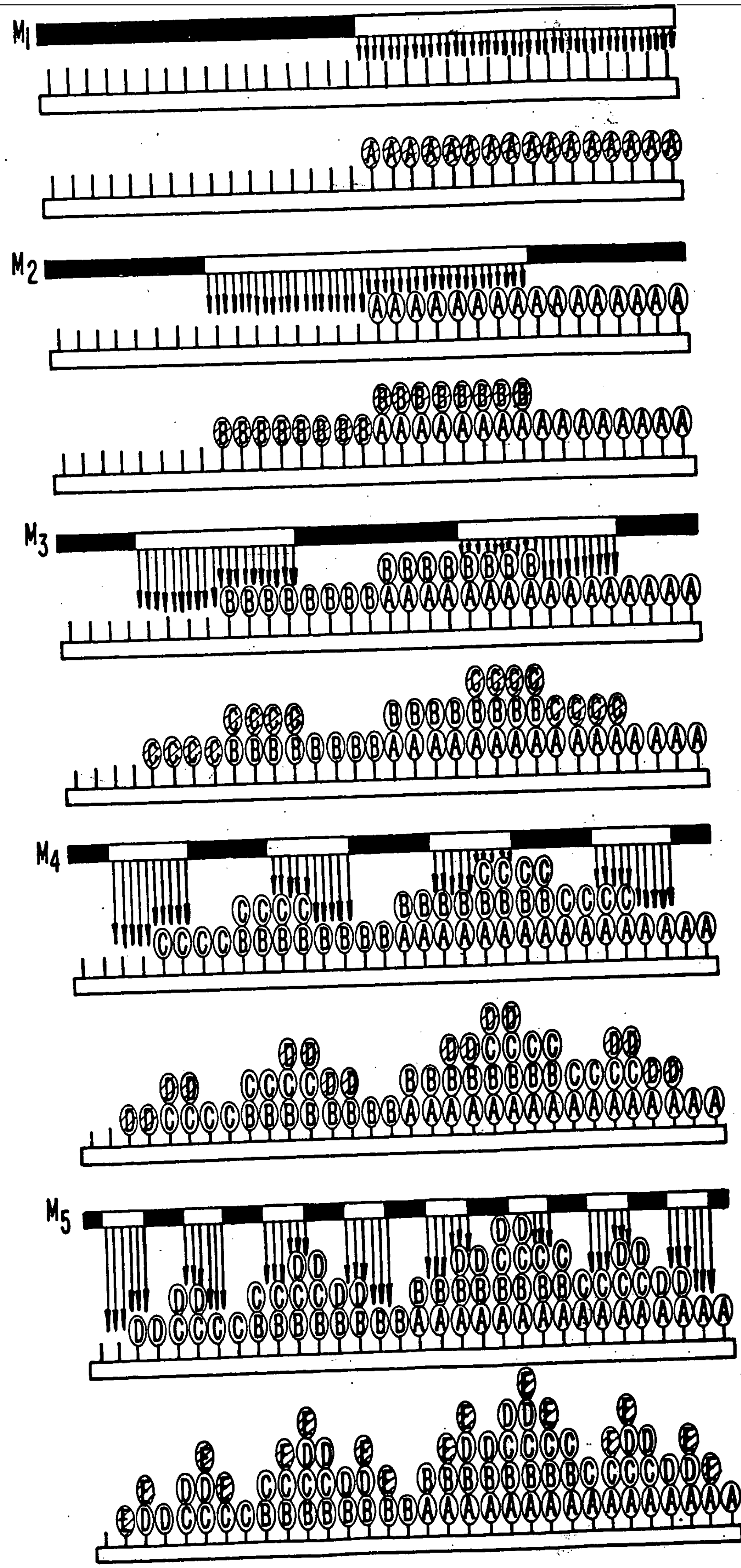


FIG. 26.

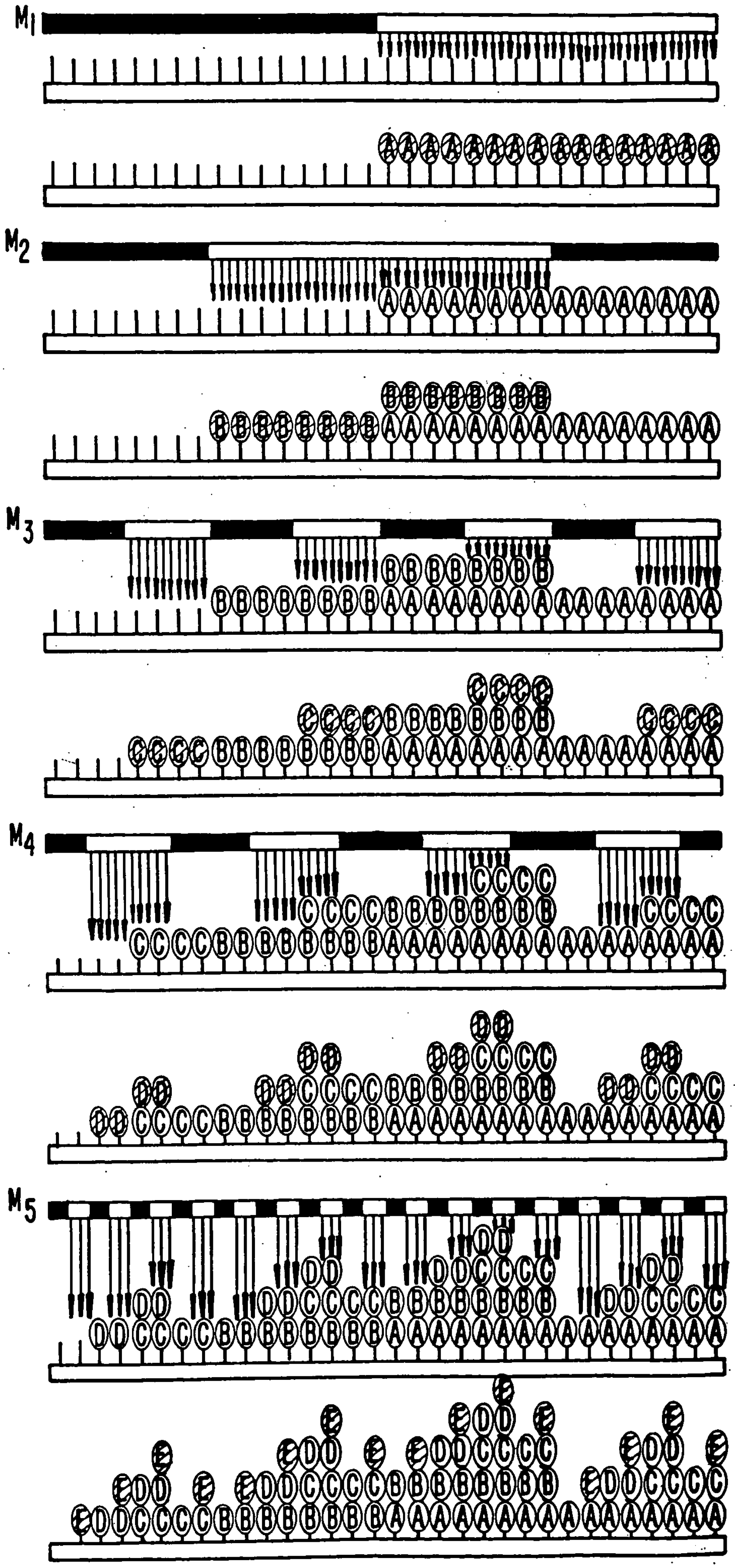


FIG. 27.

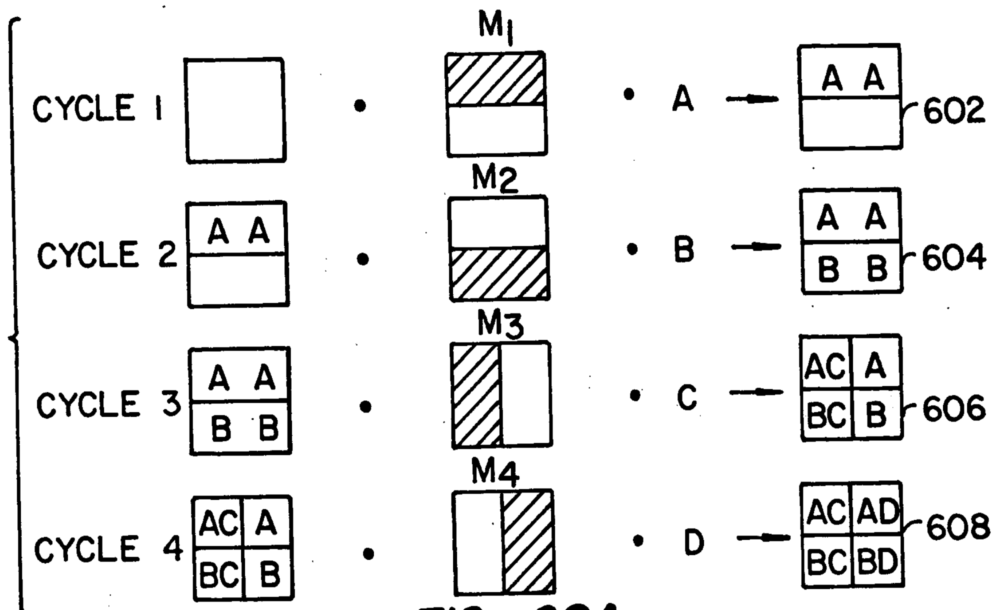


FIG. 28A.

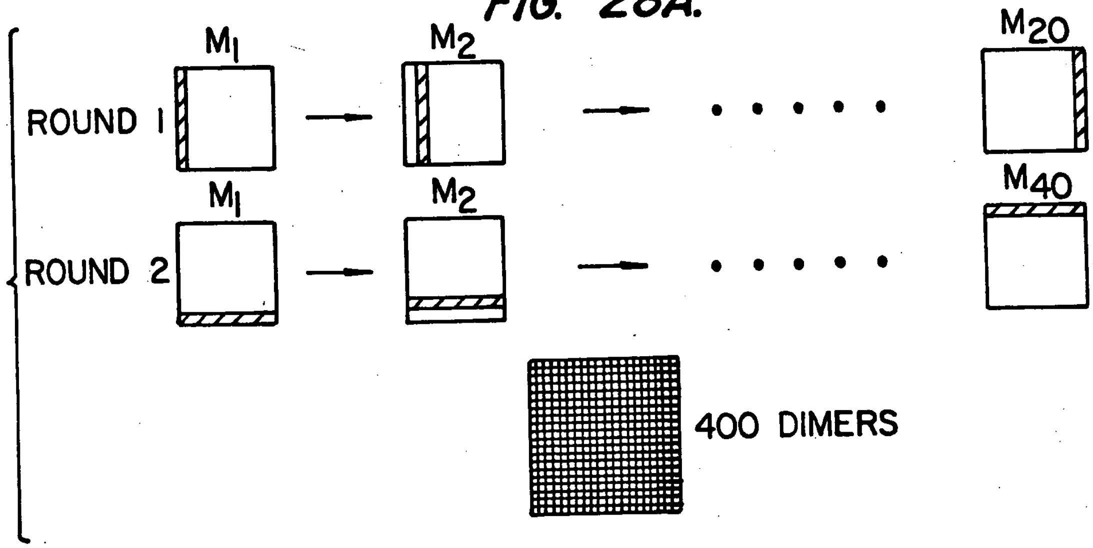


FIG. 28B.

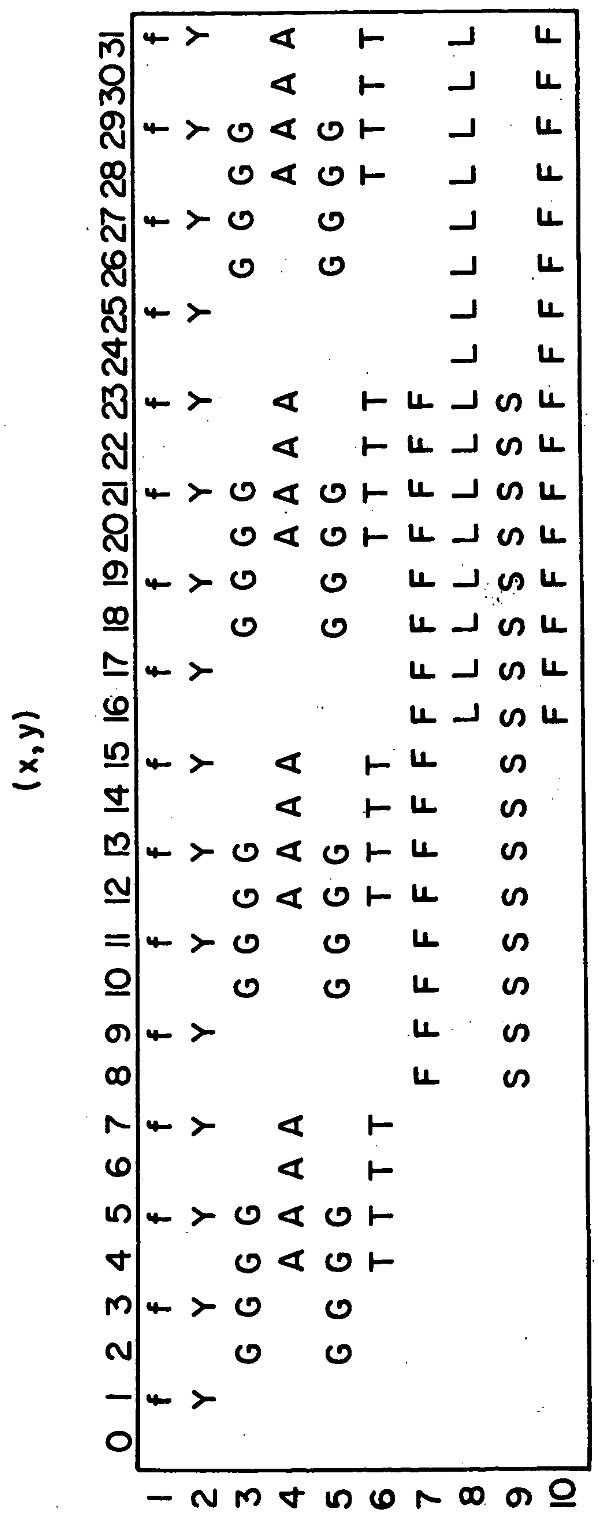


FIG. 29.

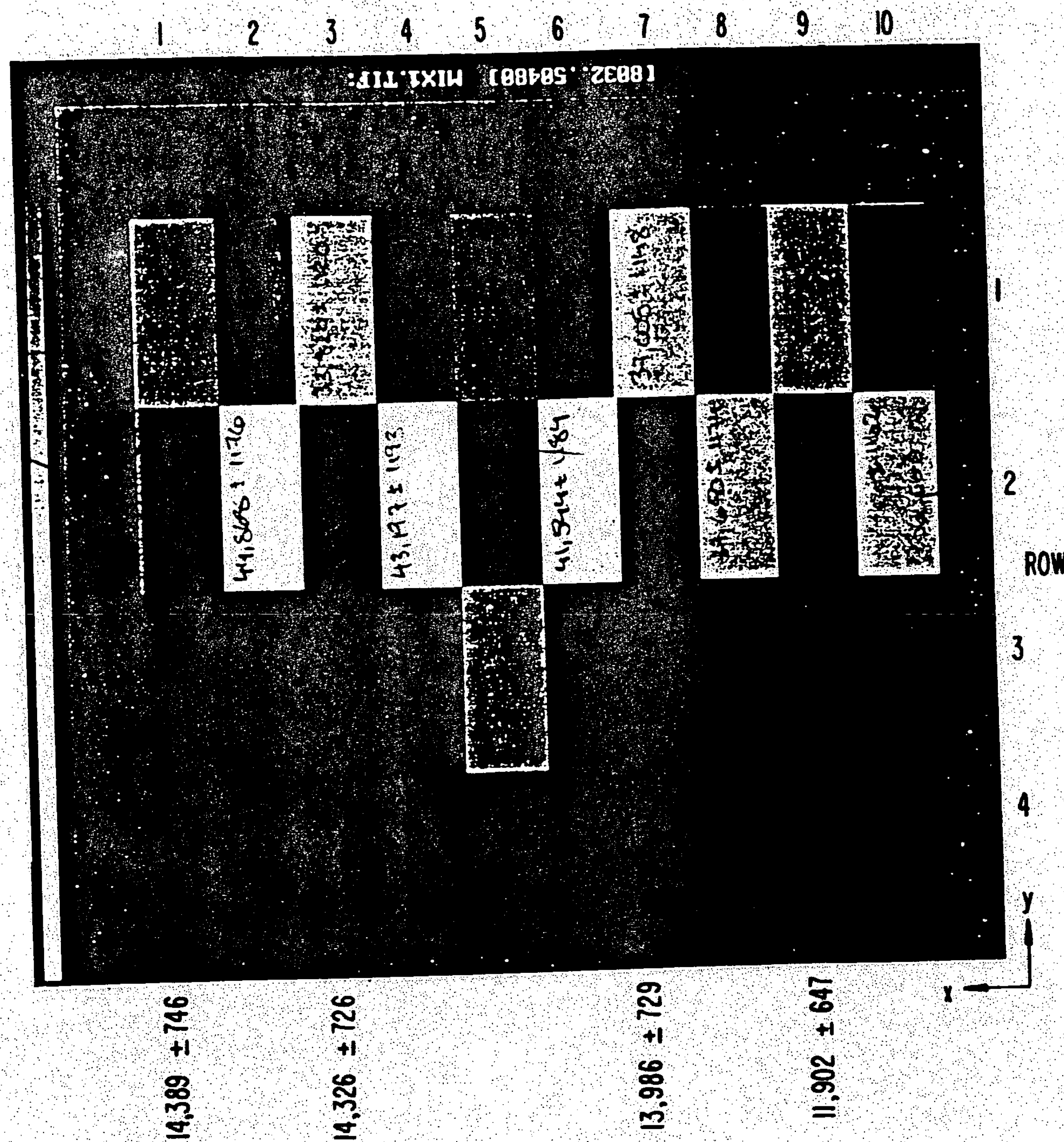
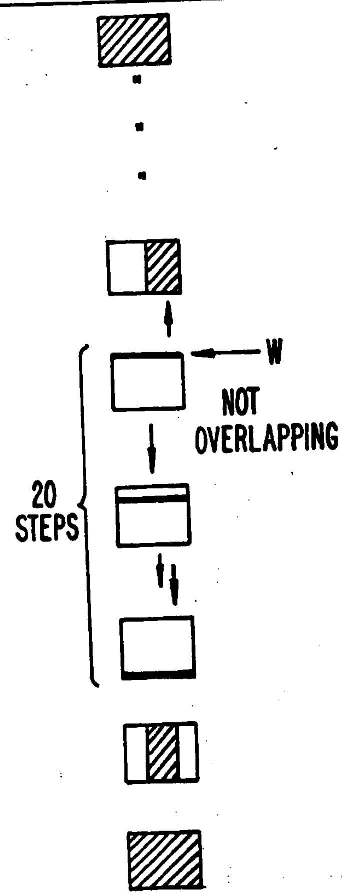

1
2
3
4
5
6
7
8
9
10
1
2
ROW
3
4
y
x
14,389 ± 746
14,326 ± 726
13,986 ± 729
11,902 ± 647

FIG. 30.

STEP	AREA PHOTOLYZED	MASK	COUPLE
1	100%		T
2	100%		V
3	100%		V
4	100%		K
5	50%		F
6 TO 25	Y20		G, A, R, K, C, M, S D, E, N, Q, F, H W, Y, L, P, V, I, T
26	50%		Q
27	100%		R



WILL GENERATE AN ARRAY OF 4 CLASSES OF PEPTIDES:

(1) RXKVVT
(2) ROXKVVT
(3) ROXFKVVT
(4) RXFKVVT

WHERE X REPRESENTS SUBSTITUTION OF ALL 20 L-AMINO ACIDS

FIG. 31.

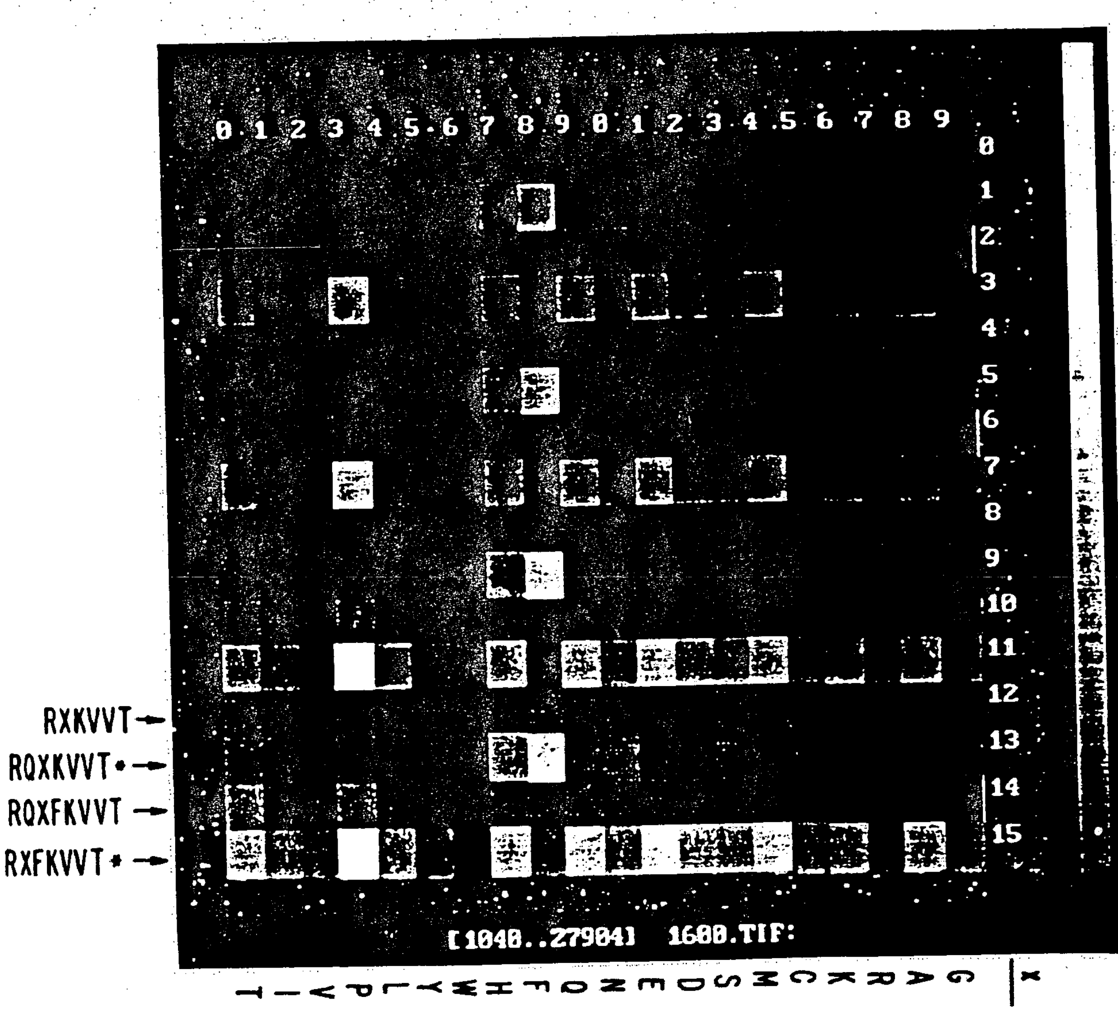

0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
RXKVVT
RQXKVVT*
RQXFKVVT
RXFKVVT*
[1040..27904] 1600.TIF:

FIG. 32.

10014716.121401

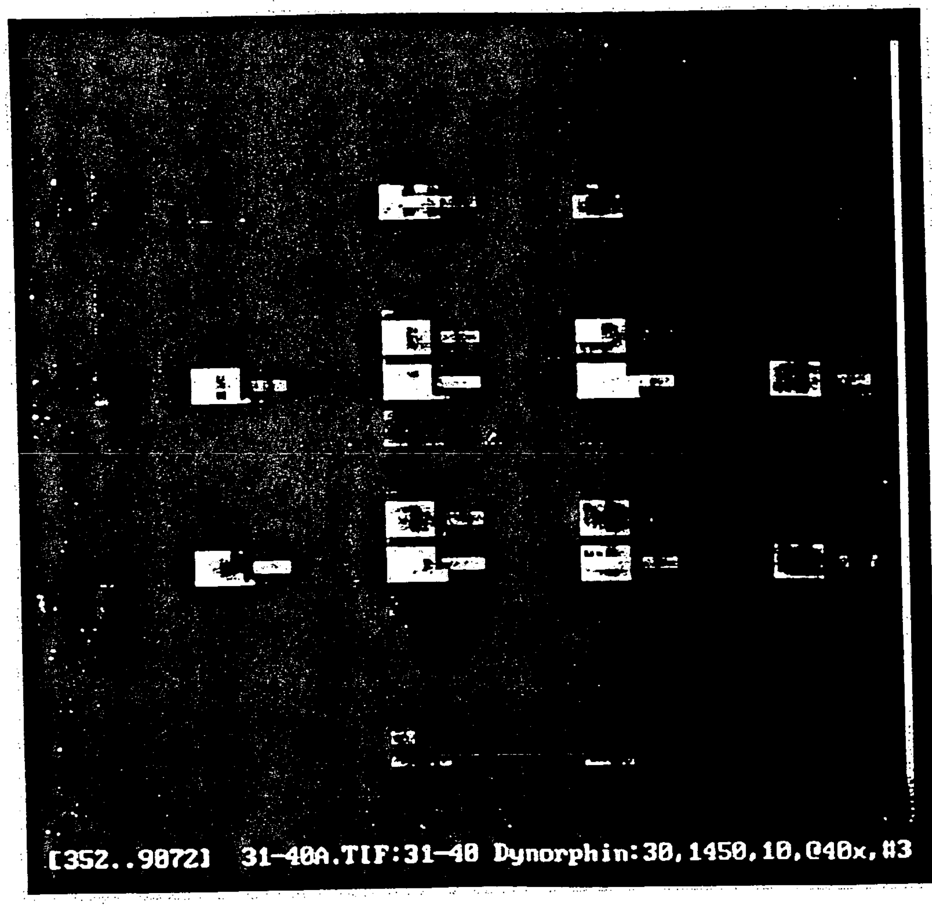


FIG. 33.

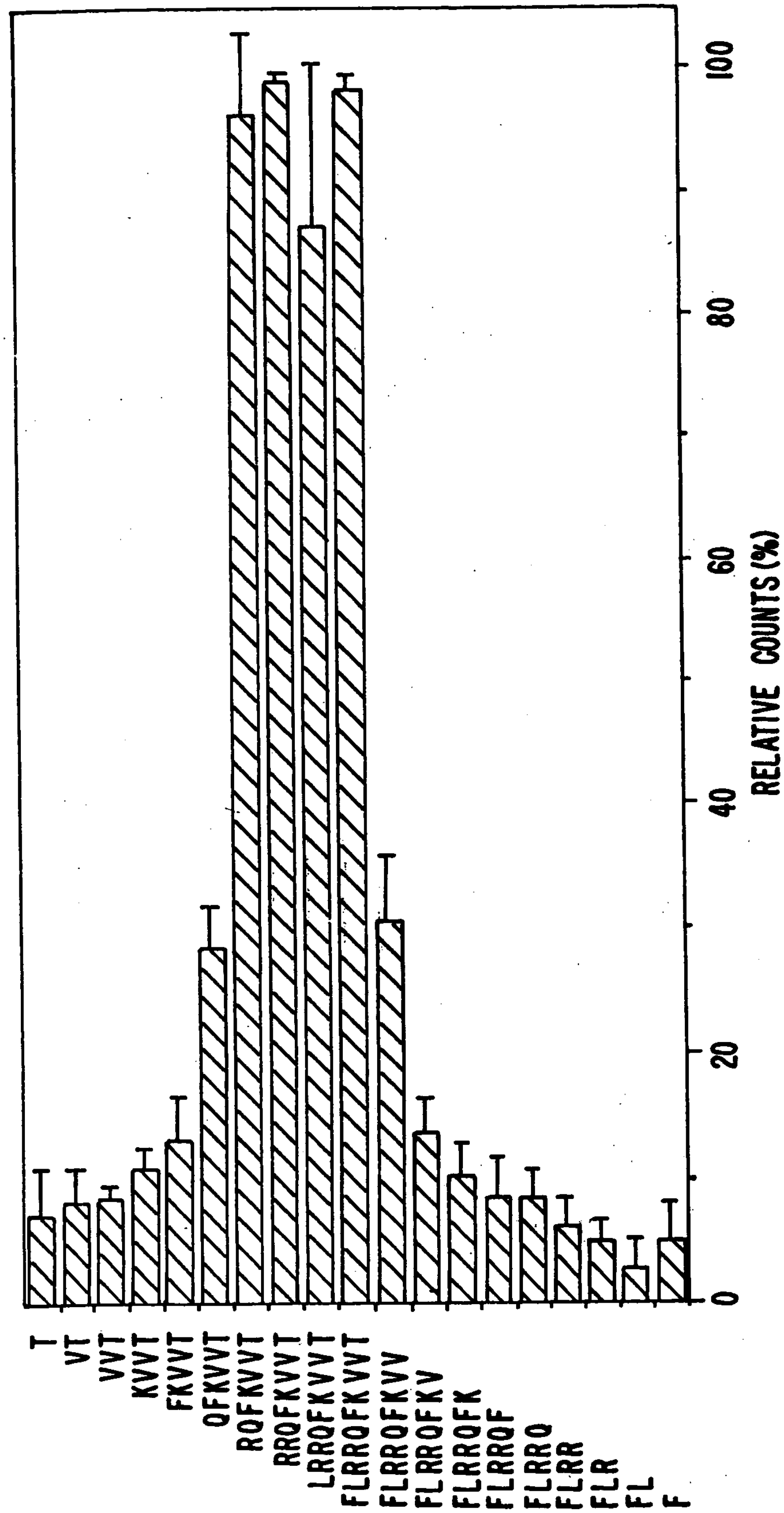

T
VT
VVT
KVVT
FKVVT
QFKVVT
RQFKVVT
RRQFKVVT
LRRQFKVVT
FLRRQFKVVT
FLRRQFKVV
FLRRQFKV
FLRRQFK
FLRRQF
FLRRQ
FLRR
FLR
FL
F
0
20
40
60
80
100
RELATIVE COUNTS (%)

FIG. 34.

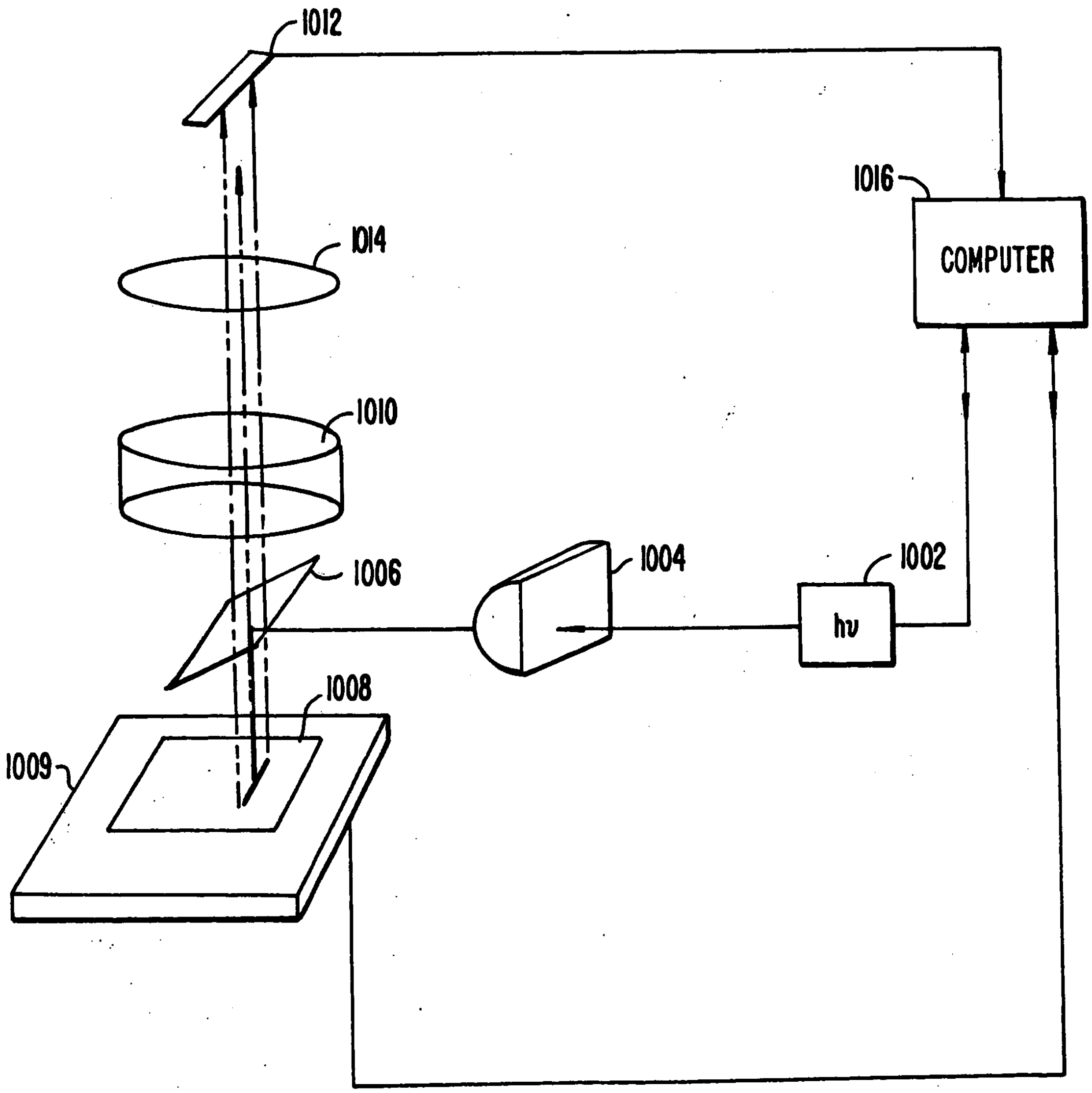


FIG. 35.

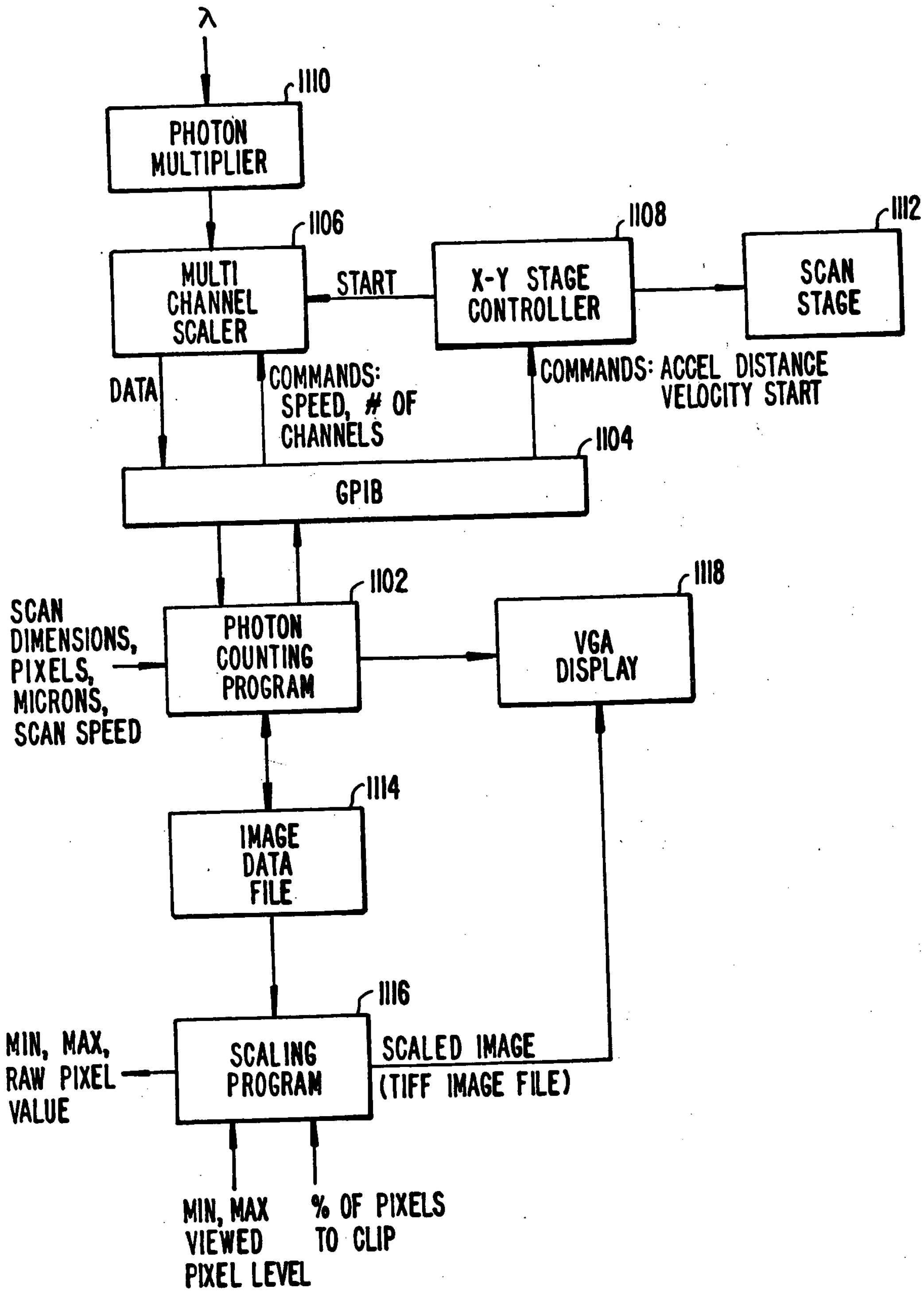

λ
1110
PHOTON MULTIPLIER
1106
MULTI CHANNEL SCALER
START
1108
X-Y STAGE CONTROLLER
1112
SCAN STAGE
DATA
COMMANDS: SPEED, # OF CHANNELS
COMMANDS: ACCEL DISTANCE VELOCITY START
1104
GPIB
1102
SCAN DIMENSIONS, PIXELS, MICRONS, SCAN SPEED
PHOTON COUNTING PROGRAM
1118
VGA DISPLAY
1114
IMAGE DATA FILE
1116
MIN, MAX, RAW PIXEL VALUE
SCALING PROGRAM
SCALED IMAGE (TIFF IMAGE FILE)
MIN, MAX VIEWED PIXEL LEVEL
% OF PIXELS TO CLIP

FIG. 36.

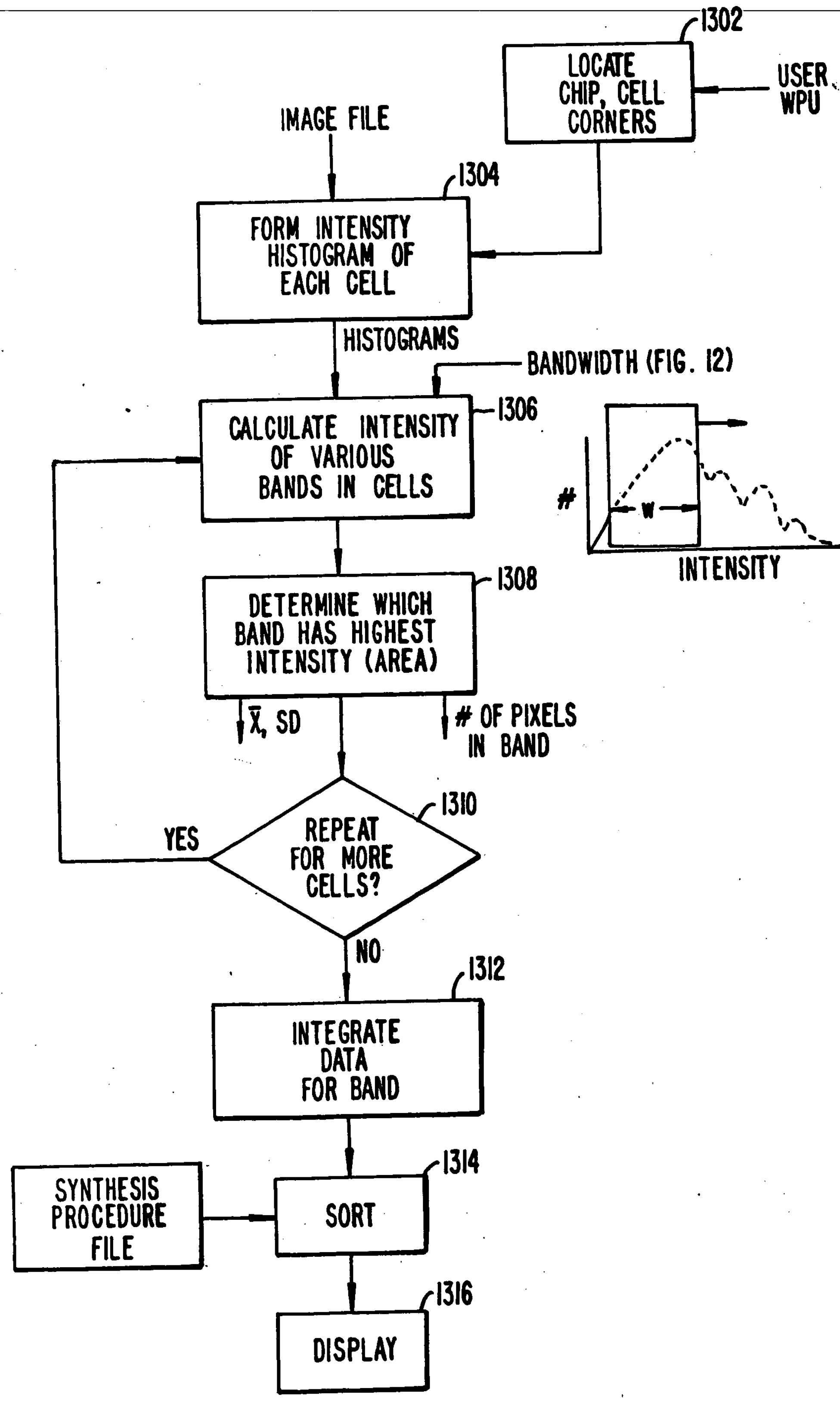

1302
LOCATE CHIP, CELL CORNERS
USER WPU
IMAGE FILE
1304
FORM INTENSITY HISTOGRAM OF EACH CELL
HISTOGRAMS
BANDWIDTH (FIG. 12)
1306
CALCULATE INTENSITY OF VARIOUS BANDS IN CELLS
#
W
INTENSITY
1308
DETERMINE WHICH BAND HAS HIGHEST INTENSITY (AREA)
X̄, SD
OF PIXELS IN BAND
1310
REPEAT FOR MORE CELLS?
YES
NO
1312
INTEGRATE DATA FOR BAND
1314
SYNTHESIS PROCEDURE FILE
SORT
1316
DISPLAY

FIG. 37.

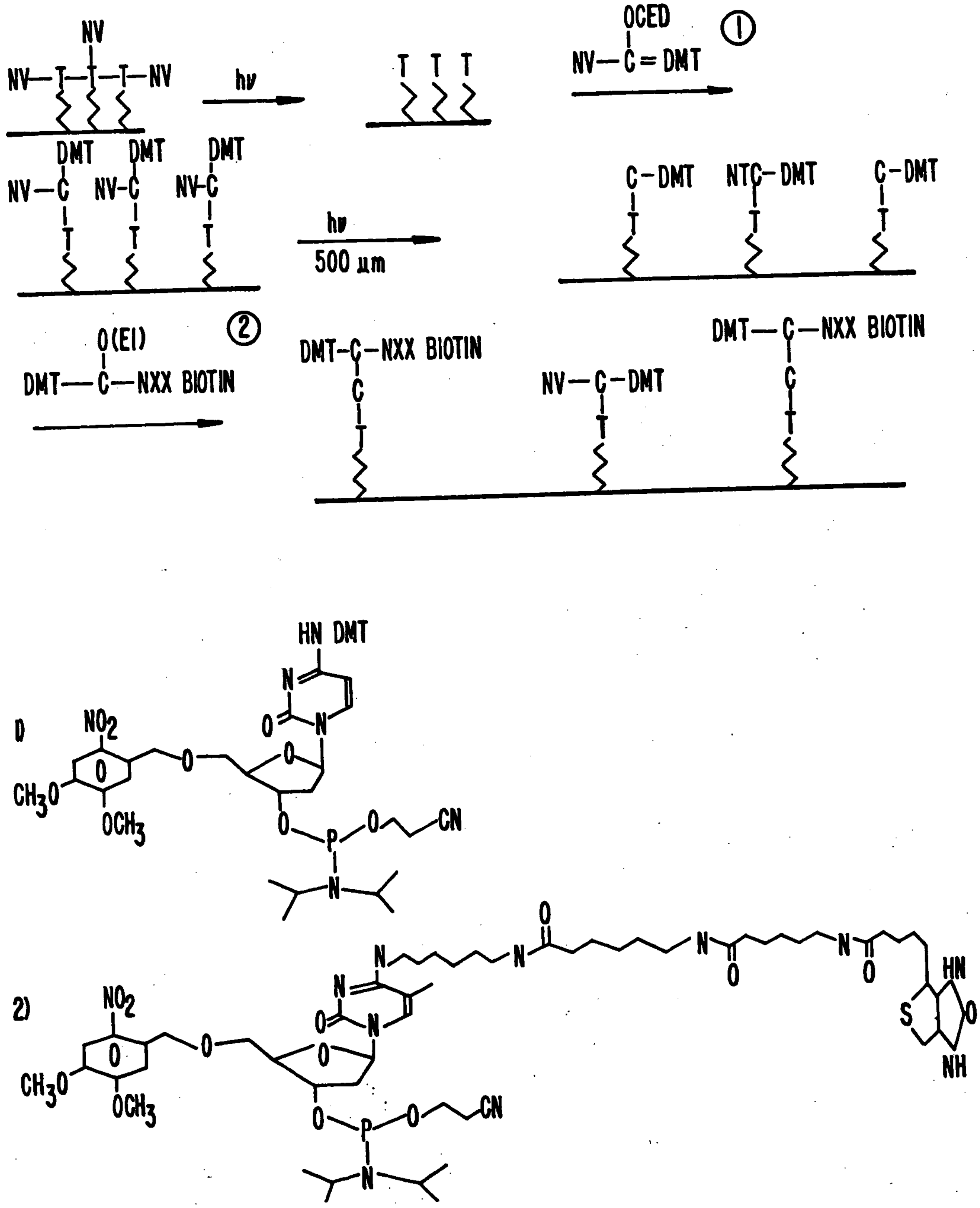

NV
NV—T—T—T—NV
hν
T T T
OCED
NV—C=DMT
①
DMT DMT DMT
NV—C NV—C NV-C
hν
500 μm
C-DMT NTC-DMT C-DMT
O(EI)
DMT—C—NXX BIOTIN
②
DMT-C-NXX BIOTIN
NV—C-DMT
DMT—C—NXX BIOTIN
HN DMT
NO2
CH3O
OCH3
CN
2)
HN
NH
S

FIG. 38.

FIG. 40A.

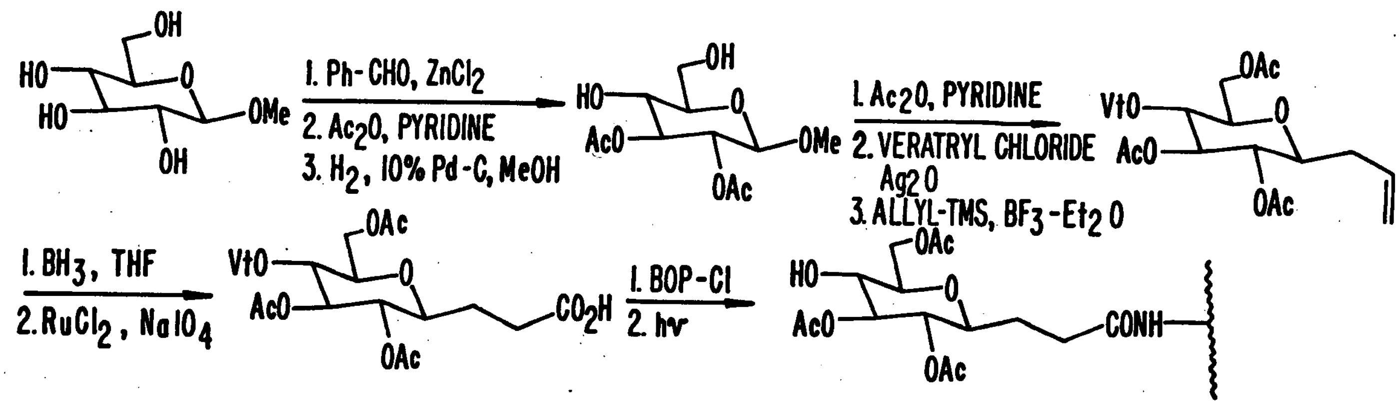


FIG. 40B.

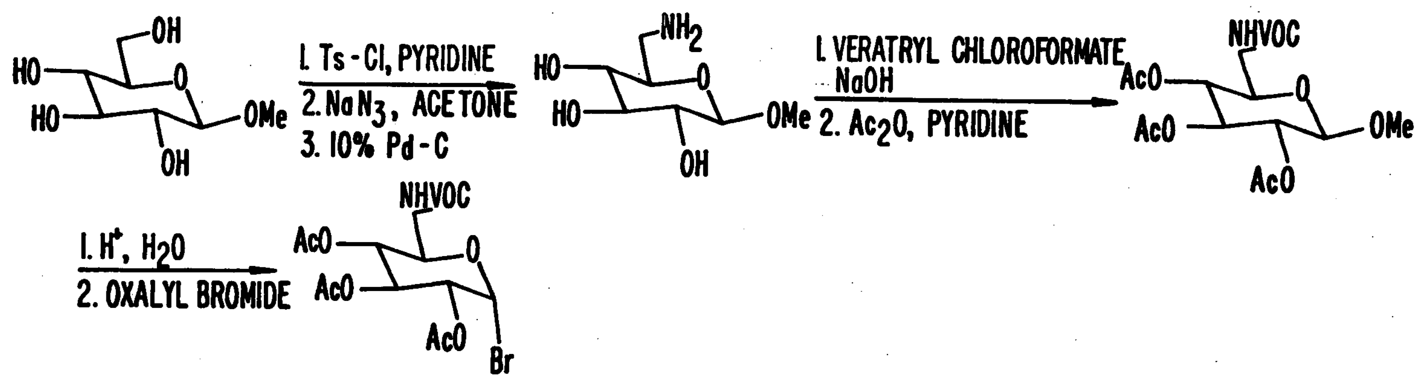
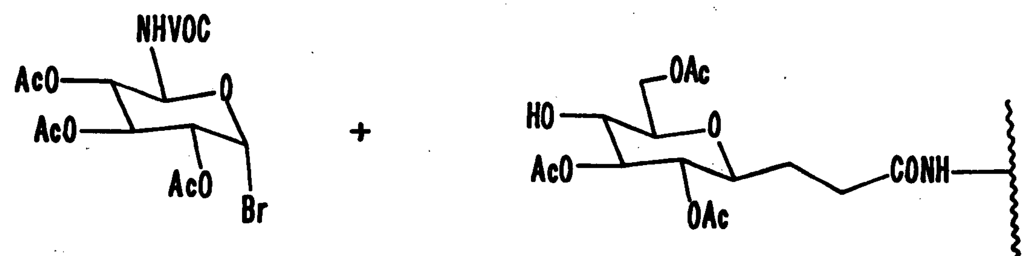


FIG. 40C.



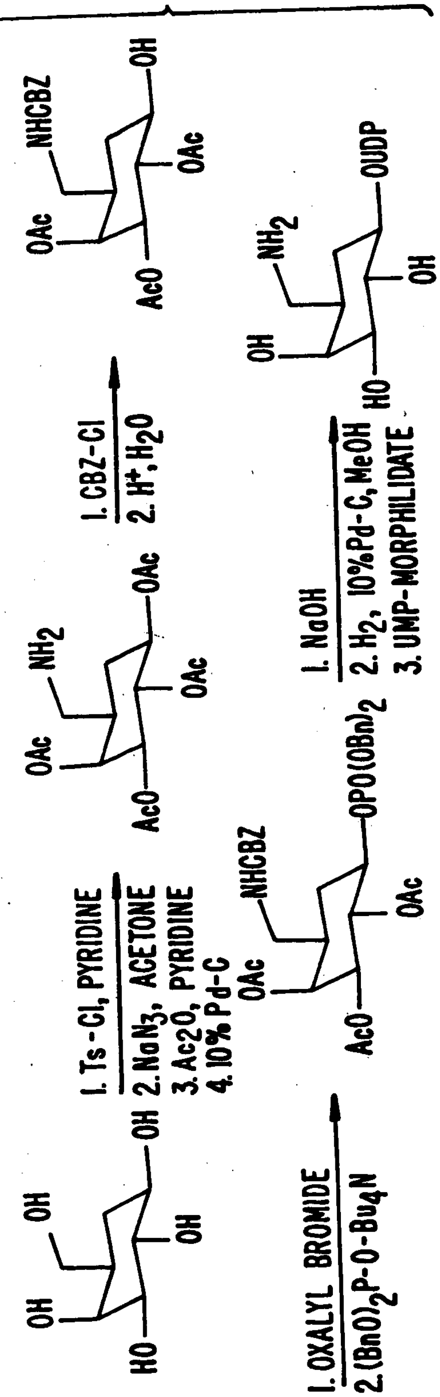


FIG. 40D.

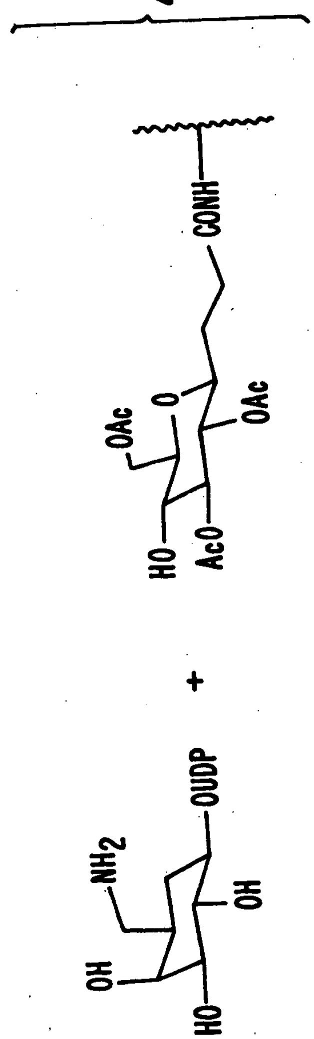


FIG. 40E.

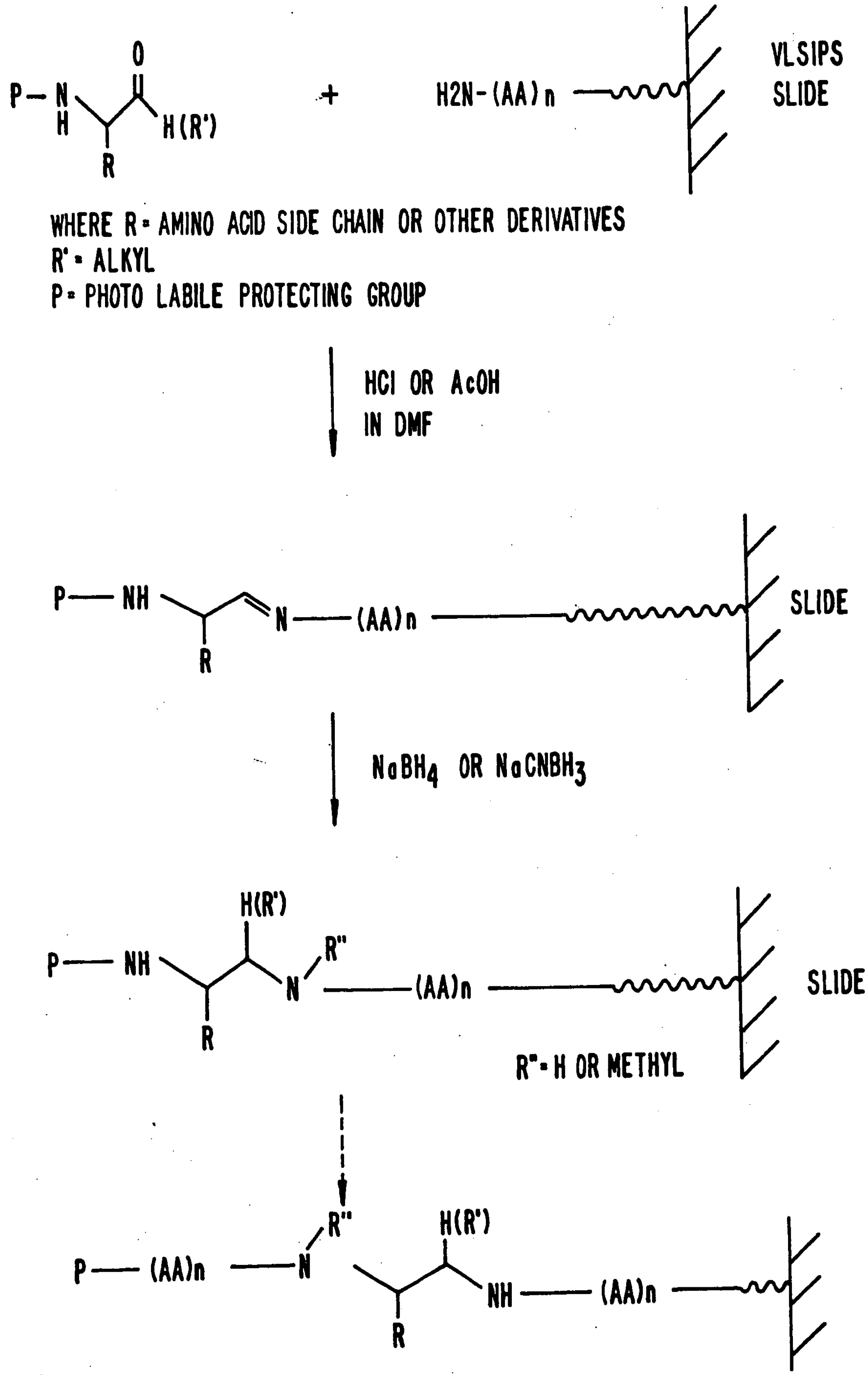

O
P—N
H
H(R')
R
+
H2N-(AA)n
VLSIPS
SLIDE
WHERE R = AMINO ACID SIDE CHAIN OR OTHER DERIVATIVES
R' = ALKYL
P = PHOTO LABILE PROTECTING GROUP
HCl OR AcOH
IN DMF
P—NH
N—(AA)n
R
SLIDE
$NaBH_4$ OR $NaCNBH_3$
H(R')
P—NH
R''
N
(AA)n
R
SLIDE
R'' = H OR METHYL
P—(AA)n
R''
N
H(R')
R
NH—(AA)n

FIG. 41.